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JULY, 1960

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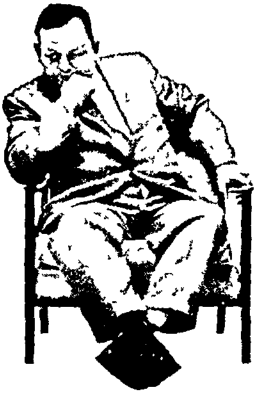

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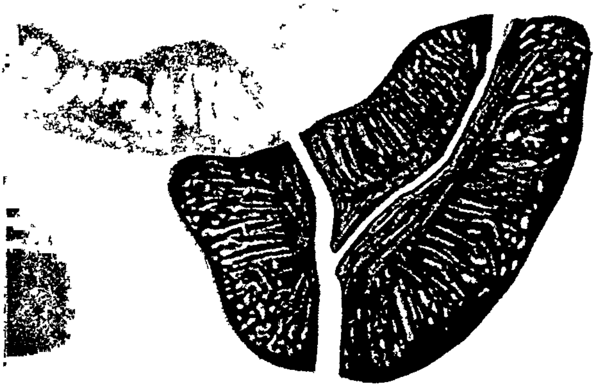

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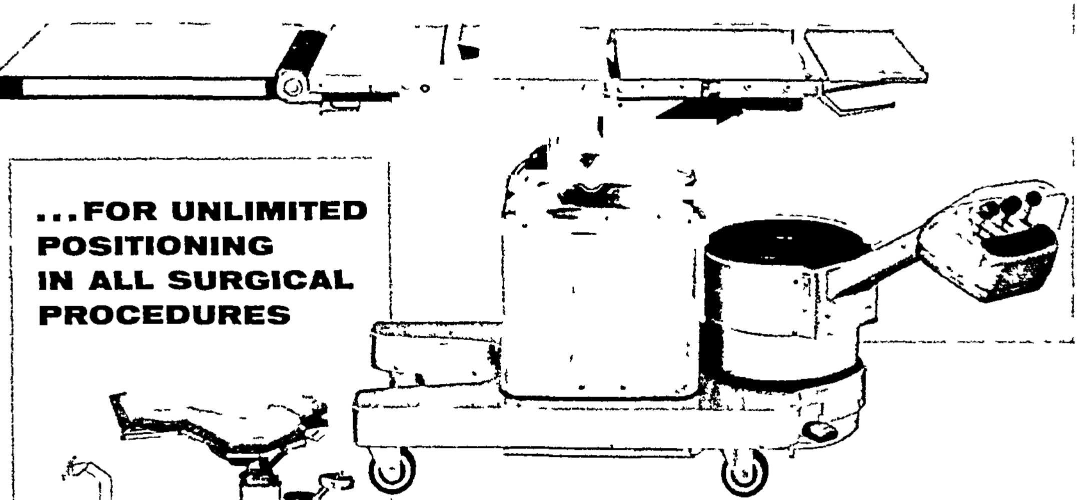

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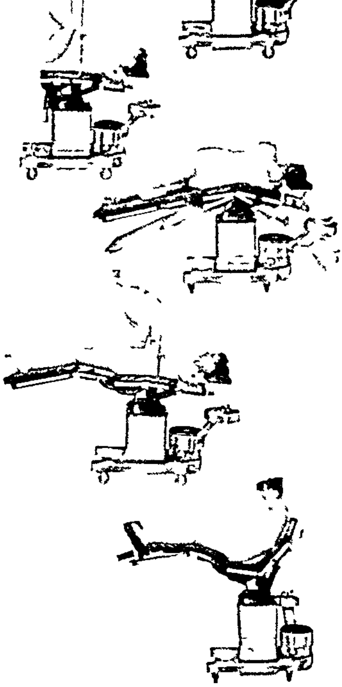

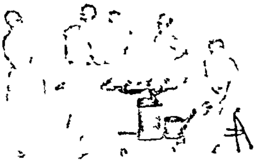

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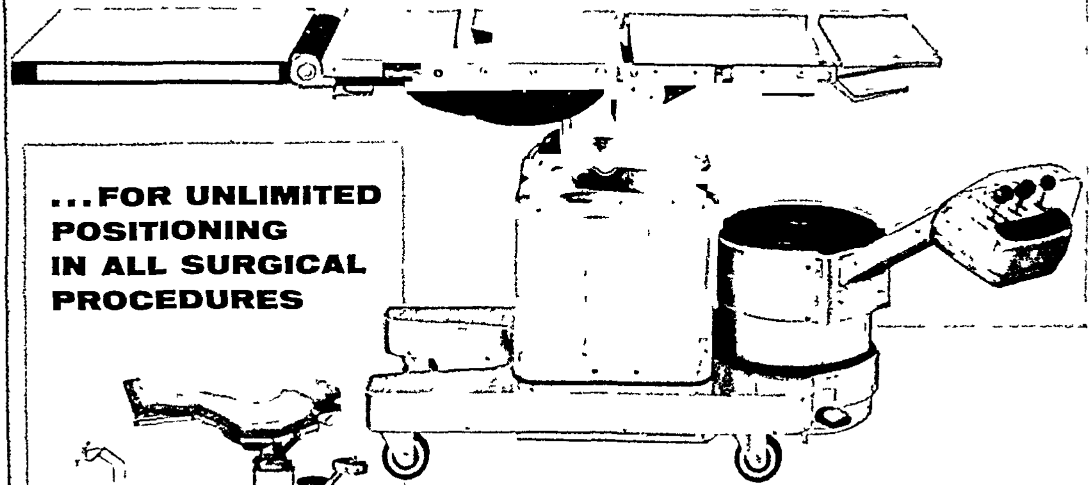

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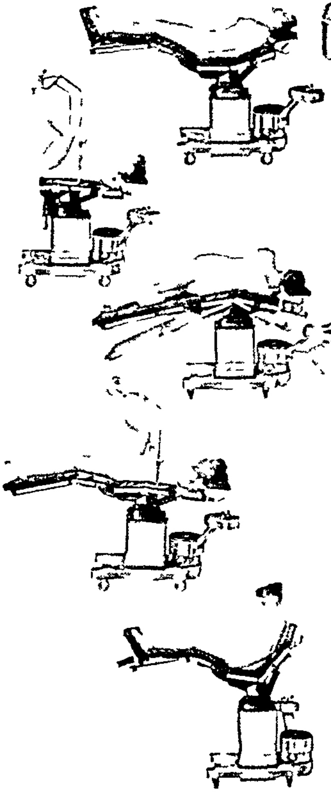

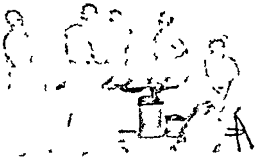

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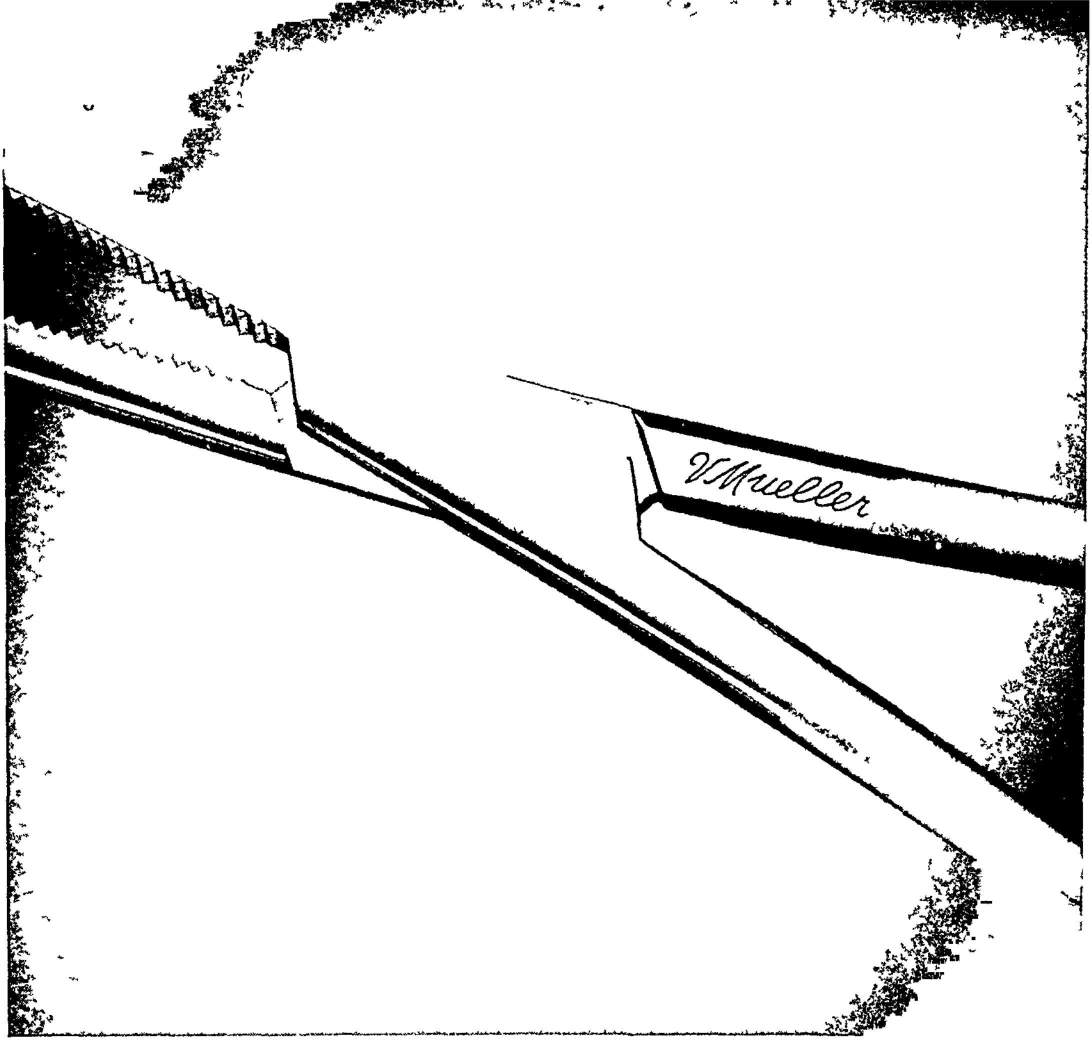

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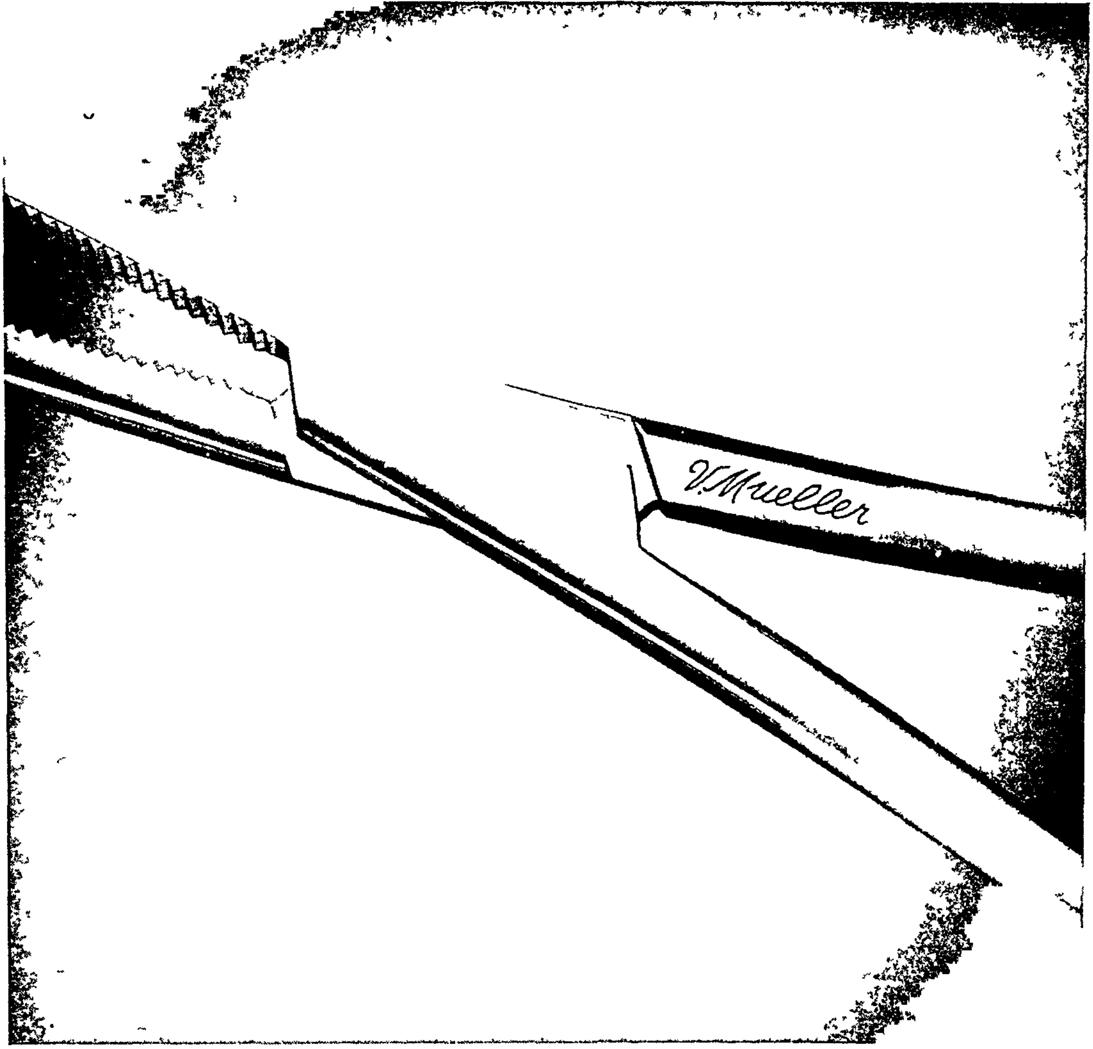

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mission she was in rather good general condition. The abdomen was distended and tympanic. There were no signs of acute inflammatory illness. Free ascites was present, which is quite a rare phenomenon. Puncture yielded a transparent liquid void of cells. Since all further examinations were inconclusive for a diagnosis, while the ascites increased, surgical intervention was decided upon.

Laparotomy was performed on November 25. Immediately after the opening of the abdomen a gelatinous substance was seen, covering the whole of the peritoneum, in which small implantations were noted. A perforated ovarian cyst, the size of a child's head, was also present.

The cyst was removed, together with 3 liters of the gelatinous substance. Histologic examination revealed an ovarian cyst and pseudomyxoma peritonei. In October 1956 the disease recurred. The patient was admitted to the surgical ward of another hospital for conservative treatment with radium and isotopes. For a transitory period colloidal gold favorably affected the recurrence, but the patient died soon afterward of a second recurrence.

Case 2.—A woman aged 60 was hospitalized from February 13 to March 14, 1955, in the internal ward of our hospital. She was admitted with the diagnosis of ascites. All examinations gave negative results. No liquid was observed in repeated punctures of the abdomen. The last puncture, however, revealed one drop of gelatinous substance at the point of the needle, whereupon diagnosis of a pseudomyxoma peritonei was made.

Histologic examination revealed a mucous, amorphous substance without cells or tumor cells; staining revealed mucus.

Laparotomy was done on March 15, with emptying of some 10 liters of gelatinous substance and a perforated ovarian cyst. The diagnosis was pseudomyxoma peritonei caused by perforation of an ovarian cyst. The patient was discharged from the hospital in good condition. No follow-up was possible, as she did not report, as advised, for reexamination.

Case 3.—A woman aged 56 had noted recent swelling of the abdomen. There was no pain, no sensation of heaviness and no difficulty in breathing. At the time of admission the abdomen was swollen. Over the whole of the abdomen dullness was present, with the dull percussion sound that is a characteristic symptom of pseudomyxoma peritonei. There was no free liquid. All routine examinations gave negative results. Apart from minor anemia, no pathologic change was detected. Laparotomy was done on the assumption that pseudomyxoma peritonei was present, with emptying of 10 liters of mucous liquid. On either side a cystadenoma of the ovary was about to perforate. The patient's general condition improved after the operation.

Two years later there began a new swelling of the abdomen. A second laparotomy was done. By now the whole of the omentum was permeated with huge mucous cysts. The abdomen was filled with mucous substance. The appendix was the size of a pear and gave the impression of mucocele appendicis. Twelve liters of mucous substance was removed, and the whole of the omentum was resected. One year later the swelling of the abdomen was renewed. In the course of the third laparotomy 16 liters was emptied from the abdominal cavity.

Half a year later there was another recurrence. The patient's family, when informed about the malignant course of the disease, applied to an American hospital. The patient was turned back with the advice to undergo a fourth operation, which was performed in New York. The patient returned to Israel with a number of mucous fistulas in the scar. She died shortly afterward of peritonitis.

Case 4.—A woman aged 68 had gradually increasing swelling of the abdomen of six months' duration. She was treated under various diagnoses. The abdomen had reached an enormous size; the body seemed to be but an appendix to the huge abdomen. The general condition was not bad. The diaphragm on either side was at a level with the fourth rib. Sleeping was possible in the sitting position only, the horizontal position causing severe dyspnea.

Operation revealed a most grotesque situation: some 30 Kg. of liquid was emptied in the course of the laparotomy. On either side there existed a cystadenoma of the ovary the size of a head, in the state of perforation. The patient's condition improved after the operation, and we were about to start treatment with colloidal gold when she died of another intercurrent internal disease (cholera-like diarrhea).

Case 5.—A man aged 52 was admitted to the hospital on May 19, 1941. In 1936 he had undergone an operation for appendicitis acuta perforativa. In 1937 a growth began to develop in the scar, to which the patient paid no heed. By now, five years after the appendectomy, the growth had increased so much in size that the patient was transferred to our hospital with the diagnosis of "hernia in cicatrice." His general condition was very good. In the appendectomy scar there was an elastic swelling the size of an orange. The tumor, although mobile, could not be reduced into the abdomen; it gave the impression of a hernia irreponibilis in cicatrice. As the wound had at the time healed *per primam*, the situation seemed somewhat peculiar, and we considered the possibility of a sarcoma within the scar.

Operation was performed on May 20, 1941. An incision was made above the swelling, and the scar was excised. In the fist-sized, elastic tumor some sort of fluctuation was palpable. The growth, though situated in the abdominal wall, burst open during the process of freeing, discharging a gelatinous substance. The tumor extended into the abdominal cavity as far as to the cecum. After removal of all the gelatinous substance, the abdomen was closed.

Histologic examination revealed a vesicular tumor of the abdominal wall. On the surface of the tumor, muscles and fat tissue were permeated with isolated small vesicles approximately the size of peas. Microscopically all these vesicles contained mucus. Some of the vesicles were covered with cylinder-shaped, cortical mucus-producing cells. In other places the cortical cells were absent, the mucus being in direct contact with the connective tissue. In one place giant cells of the "foreign body" type were present; in others there were layers of cortical cells built like glands, resembling the intestinal glands but without a trace of lymphatic tissue. Histologically the process was not malignant. Presumably it had started from a piece of mucous membrane of the appendix which was implanted in the abdominal wall during the operation. The diagnosis was pseudomyxoma e appendice intramurale. On Jan. 24th, 1944, the patient reported that half a year earlier another swelling had appeared. Locally a tumor the size of an orange was observed in the scar. Operation was performed on January 25, with an incision along the scar. When the peritoneum was reached, the growth proved to be intraperitoneal. In some places it was gelatinous, in others hard. The volume and expansion of the tumor were similar to those observed at the previous operation, but owing to its intraperitoneal situation and to the gelatinous development, radical extirpation was impossible.

Histologic study revealed small pieces of tissue containing many vesicles ranging in size from that of a pinhead to that of a pea, all of them filled with mucus. The substance was identical with the material observed in the previous examination. No proof of malignancy was detectable.

One year later there appeared myxomatosis peritonei generalisata. In this case the pseudomyxoma peritonei developed under the clinical symptoms of a bowel obstruction that eventually led to the patient's death. No postmortem could be performed. We assume that in this case malignant degeneration had taken place, since pseudomyxoma in itself generally does not cause intestinal obstruction.

Case 6.—A woman aged 42, of slender habitus, complained of increasing pain in the right lower abdominal quadrant. Palpation revealed the presence of a smooth growth the size of a child's head. All other examinations gave negative results.

At operation a tumor situated behind the cecum was observed, its size corresponding to the clinical impression. It was firmly adherent to the posterior cecal wall and the ascending portion of the colon. Sharp severing of adhesions was necessary. When freed, the tumor proved to be connected with the cecum by a small pedicle about 0.5 cm. long, which, macroscopically recognizable, represented the rest of the appendix, the whole of the remaining growth being a giant mucocele. In addition, two small cystic nodules the size of pinheads were observed in the retrocolic region, a few millimeters apart, which were extirpated, with subsequent coagulation. The rest of the abdominal cavity was altogether free.

Microscopic examination confirmed the macroscopic picture of a giant mucocele with free connection of the remaining portion of the appendix to the cavity of the mucocele. The walls of the mucocele consisted of coarse, nucleus-poor, hyalinized scar tissue in which lymphatic tissue was present in isolated areas. There were no signs of perforation of the wall. The cavity was filled with mucous masses in which isolated groups of cylindric epithelium were present. No epithelium was observed in the *walls* of the mucocele.

Reexamination in 1959, four years after the operation, showed the patient in good health, without any symptoms of a pseudomyxoma.

COMMENT

The pathologic-anatomic basis of pseudomyxoma peritonei is as follows:

Huge quantities of a mucous substance are present, whereas microscopically there are very few cells. Those detectable are cells of an ovarian cyst or of the mucous membrane of the appendix, and, as a matter of fact, a cyst of the ovary or a mucocele of the appendix was at the bottom of the cases described. The cells develop on the visceral and parietal peritoneum as if on a tissue culture, creating such quantities of mucus that they themselves are no longer observable; there is only the substance they have produced, i.e., the mucus.

Clinically the disease takes a malignant course, though it is not malignant from the pathologic-anatomic point view. The patient is doomed to die because of the expansion of the disease, which gradually leads to cachexia due to the loss of protein (cachexia aproteinogena). Such was the case with the patient in Case 4, in which more than 30 liters of mucus, i.e., albumin substance, was removed. Other causes of death are thrombosis and embolism as a result of prolonged illness in bed, or infections due to penetration of bacteria into the intestine. In other patients intestinal obstruction develops as a result of malignant degeneration. It might be said that the last-mentioned are the fortunate ones, as prolonged suffering is thereby prevented.

Treatment.—Laparotomy, with removal of the ovarian cyst or the appendiceal mucocele, is recommended, with evacuation of the mucous substance. It has been reported that lately a transitory improvement was followed by treatment with colloidal gold, which for some time has a favorable effect in cases of carcinosis peritonei, but no permanently effective treatment is known. As we have no experience of our own with colloidal gold therapy, we are not in a position to voice an opinion.

The interest pathologists are taking in this disease is understandable, in view of the development of mucus-producing cells on the peritoneum, which resembles the laboratory experiment of cell implantation. It is mainly the pathologic literature that deals with pseudomyxoma peritonei; surgical and gynecologic papers report only sporadic casuistic instances.

As has been stated, the process has the character of an implantation; there is a similar process known in pathology (endometriosis). Despite the vast differences in its formal genetic course, the latter disease is histologically an implantation of epithelial and mucus-producing cells present in the peritoneum, both parietal and visceral; the implantations occasionally also penetrate beneath the serosa of the intestine.

The difference between the appendiceal and the ovarian pseudomyxoma is but a difference of degree; in the case of an ovarian cyst the mucus develops more quickly and in greater quantities than in the case of a mucocele appendicis; furthermore, the epithelium of an ovarian cyst has from the very beginning a tendency toward stronger proliferation and production of mucus. Otherwise the ovariogenetic and the appendiceal pseudomyxoma are alike, both representing mucous implantations of mucus-producing cells.

The prognosis of appendiceal pseudomyxoma peritonei is solely dependent on whether or not perforation already exists. If it does not, recovery is possible after removal of the mucocele.

There are cases on record of the joint existence of an ovarian cyst and an appendiceal mucocele. This phenomenon may be explained in three ways:

1. The appendiceal and the ovariogenetic disease are not connected. This explanation seems unacceptable, since the simultaneous appearance of the two relatively rare diseases cannot be a mere chance.

2. The mucocele appendicis is the primary and the ovariogenetic the secondary disease, somehow comparable to ovarian metastases of a carcinoma of the digestive tract. This assumption is refuted by the fact, recorded by us as well as throughout the literature, that it is women who are involved in the majority of cases. With regard to appendicitis, there are no differences between male and female patients. If the explanation were correct, pseudomyxoma peritonei would be as frequent among men as it is among women. We have therefore arrived at the conclusion that simultaneous disease of the appendix bears but a secondary character, as with our patient in Case 3.

3. The ovariogenetic is the primary and the appendiceal the secondary disease. This assumption certainly explains the true cause of pseudomyxoma peritonei e ovario. One frequently observes implantations in the subserosa of the intestine; it may be assumed that these alterations affect the walls of the appendix, which, in the presence of pseudomyxoma peritonei, are invaded. Once more we cite our Case 3: the second operation revealed a mucocele appendicis the size of a pear.

SUMMARY

Five cases of pseudomyxoma peritonei observed by the author are reported, 4 of ovariogenetic and 1 of appendiceal origin. In a sixth case there was a nonperforating, locally developed giant mucocele of the appendix.

The clinical malignancy of disease is confirmed. The good prognosis of nonperforating, locally developed mucocele appendicis is stressed.

The importance of abdominal punctures in diagnosis is pointed out. Minute quantities of cell-free mucus observed at the point of the needle are conclusive for correct diagnosis.

The histopathologic and anatomic observations in the aforementioned cases, as well as their clinical causes, are described.

ZUSAMMENFASSUNG

Der Verfasser berichtet über fünf von ihm beobachtete Fälle von Pseudomyxom des Bauchfells, von denen vier vom Eierstock und einer vom Wurmfortsatz ausgingen. In einem sechsten Falle handelte es sich um eine nicht perforierende örtlich entstandene riesige Mukozele des Wurmfortsatzes.

Die klinische Bösartigkeit der Erkrankung wird bestätigt. Die gute Prognose der nicht perforierenden örtlich entstandenen Mukozele des Wurmfortsatzes wird hervorgehoben.

Auf die Wichtigkeit der Bauchpunktion zur Stellung der Diagnose wird hingewiesen. Der Nachweis kleinster Mengen zellfreien Schleimes an der Nadelspitze ist entscheidend für die Diagnose.

Die histopathologischen und anatomischen Beobachtungen, die an den angeführten Fällen gemacht wurden, sowie ihr klinischer Verlauf werden beschrieben.

RESUMEN

El autor da cuenta de seis casos personales de pseudo-mixoma peritoneal, cuatro de origen ovárico y 1 de origen apendicular. El sexto caso se trataba de un mucocele gigante no perforante y desarrollado localmente.

Se confirma la malignidad clínica de la afección. También se insiste en el buen

pronóstico del mucocele apendicular local no perforado.

Se menciona la importancia diagnóstica de la punción peritoneal. Pequeñísimas cantidades de moco, libre de células, en la punta de la aguja bastan para establecer un diagnóstico correcto.

Finalmente el autor hace una descripción de sus observaciones anatómicas e histopatológicas así como de sus causas clínicas.

RÉSUMÉ

L'auteur rapporte cinq cas de pseudomyxomes du péritoine dont quatre d'origine ovariogénétique et un d'origine appendiculaire. Dans un sixieme cas il s'agit d'une *mucocèle géante non perforée de* l'appendice.

La malignité clinique de l'affection est confirmée. Quant à la mucocèle localisée non perforée, son pronostic est bon.

L'importance de la ponction abdominale pour le diagnostic est soulignée. De petites quantités de mucus acellulaire observées à la pointe de l'aiguille sont concluantes pour un diagnostic correct.

Les observations histopathologiques et anatomiques des cas rapportés ainsi que leurs causes cliniques sont décrites.

RIASSUNTO

Vengono riferiti cinque casi di pseudomixoma del peritoneo, di cui 4 di origine ovarica e 1 di origine appendicolare. In un sesto caso vi era un mucocele gigante dell'appendice a sviluppo locale e non perforato.

Viene confermata la malignita clinica della affezione, mentre per il mucocele appendicolare non perforato dell'appendice, *a sviluppo locale, la prognosi e'* buona. La puntura addominale ha molta importanza nella diagnosi perche' consente di osservare la presenza del muco nell'ago.

Viene data la descrizione clinica, anatomica ed istopatologica dei casi.

SUMARIO

Comunica cinco casos de pseudomyxoma peritoneal, 4 *de origem ovariana e de origem* apendicular. No sexto caso houve u'a mucocele gigante, não perfurada do apendice. Confirma a malignidade da doença e salienta que o prognostico quando não ha perfuração é bom. Encarece a importancia da punção abdominal para diagnostico utilisando as pequenas quantitades de muco obtido na ponta da agulha de punção. Descreve o quadro anatomopatologico e os aspectos clinicos.

* * *

No one can have a lofty soul or any keenness of wit without some passion for letters. They are dedicated to the representation of what is beautiful in nature; the sciences to truth. Art and science together contain all that is noble or useful in the objects of thought, so that nothing is left to such as repudiate them but objects unworthy to be taught or represented.

—*Vauvenargues*

Immediate Operation Versus Conservatism For Acute Abdominal Complaints

A Survey of Over 5,000 Hospital Admissions

BERNARD J. FICARRA, M.D., Sc.D., LL.D., Ph.D.*
OYSTER BAY, LONG ISLAND, NEW YORK

THIS study is based upon a series of 5,023 hospitalized patients treated as inpatients because of acute abdominal complaints. Their symptoms were sufficiently severe to warrant hospitalization. All were seen and examined by various physicians and surgeons, ranging from interns and admitting physicians to senior surgeons. The admission diagnoses indicated that the physicians and/or surgeons were convinced that some acute condition existed within the abdomen.

> *In the author's opinion, absolute accuracy of diagnosis is not essential to correct treatment. When a sincere effort toward a diagnosis has proved fruitless or equivocal, the first important decision is whether or not operation is indicated; if it is, the next question is whether it should be done immediately, and if the answer to this is affirmative, the next step is to determine the patient's operability. Can he tolerate a major operation? When the surgeon is forced to make a choice, correct appraisal of the patient as an operative risk may be preferable to accuracy of diagnosis, so far as the life of the patient is concerned.*

The survey encompasses five different hospitals, located in both rural and urban communities. The cases studied were both private and ward patients and persons admitted via the emergency room. The period of study extends over ten years and six months, commencing Jan. 1, 1948 and terminating July 31, 1959.

The distribution of the admission diagnoses was as follows:

Tentative Diagnosis	*No. of Cases*
Acute appendicitis	2,281
Pelvic disease (acute)	774
Perforated peptic ulcer	536
Acute cholecystitis	279
Lesions of the colon	224
Pancreatic diseases	186
Small bowel obstruction	172
Large bowel obstruction	143
Peritonitis	133
Mesenteric vascular occlusion	72
Traumatic injury to the abdomen	77
Internal hemorrhage	73
Laceration of the liver	55
Splenic injury ("ruptured" spleen)	18
Total	5,023

From this tabulation it is evident that the most frequent admission diagnosis was acute appendicitis. Not all of the 2,281 cases with this diagnosis proved to be acute appendicitis; nevertheless 85 per

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*Director, Department of Surgery, Oyster Bay Hospital, Bayville.

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pronóstico del mucocele apendicular local no perforado.

Se menciona la importancia diagnóstica de la punción peritoneal. Pequeñísimas cantidades de moco, libre de células, en la punta de la aguja bastan para establecer un diagnóstico correcto.

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>
> —*Vauvenargues*

at the fundus, which was sealed off by the omentum. In the remaining 12 per cent, the spillage of bile was localized to the pericholecystic area in 6 per cent of the cases, and actual bile in the peritoneal cavity was reported in 6 per cent of the entire 25 per cent of patients with perforation of the gallbladder.

An observation worthy of note is that cholecystostomy was performed on 10 patients who were extremely ill from acute gangrenous cholecystitis when the gangrene was limited to the fundus.

Intestinal Lesions.—Except for acute obstruction of the small bowel, most lesions of the intestines were treated after additional studies. In the majority of instances elective operations were necessary. Carcinoma was the most common cause of obstruction of the large bowel. Other entities encountered were:

1. Diverticulitis.
2. Sigmoiditis.
3. Perforation secondary to ulcerative colitis.
4. Volvulus.

Obstruction of the small bowel was attributed to postoperative adhesions in most cases. Other causes were atresia, stenosis, volvulus, internal hernia, gallstone in the small bowel (ileum), segmental ileitis and neoplasm of the ileum (1 case).

Pancreatic Diseases.—Although 186 patients were admitted to the hospital with a preoperative diagnosis of pancreatic disease, this diagnosis was substantiated by surgical intervention in only 78 cases. Acute pancreatitis was the most common operative observation. No surgical intervention was advised when the diagnosis was determined preoperatively. When laparotomy was performed and pancreatitis observed, the only operation performed was cholecystostomy. Most surgeons preferred not to operate in the presence of pancreatitis. Postgastrectomy pancreatitis was noted in 11 cases when a second exploration was performed because of acute abdominal signs and symptoms.

A most interesting situation was encountered in 12 cases of pancreatic calculi.

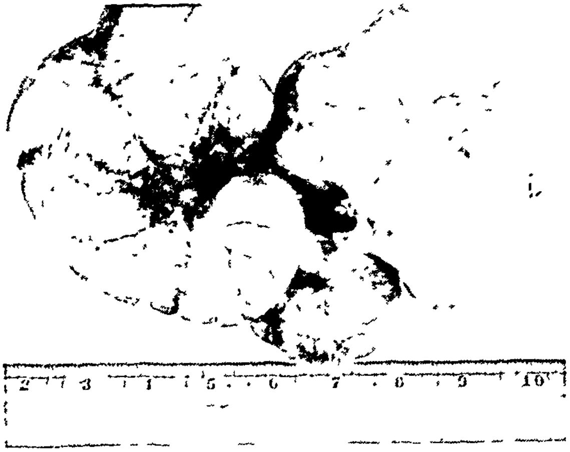


Fig. 2.—Congenital cystic dilatation of terminal ileum removed from a 4-year-old boy with acute abdominal pain and in whom a mass was palpated in the appendiceal area. Admitting diagnosis was appendiceal abscess. Photograph shows posterior view of specimen removed surgically.

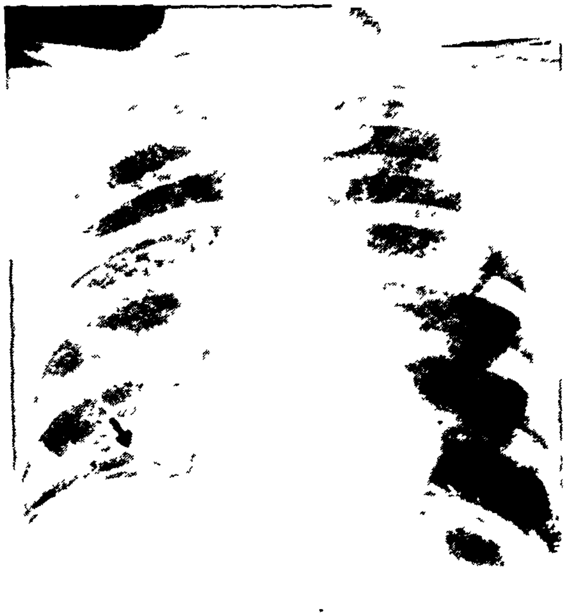


Fig. 3.—Roentgenogram of 35-year-old man with acutely perforated duodenal ulcer. Arrow indicates presence of air under right hemidiaphragm.

cent of the patients were subjected to operation. It is interesting to note that as many as 90 per cent of the patients admitted to a ward service were operated on, whereas the percentage of the private patients treated by immediate operation was 65. Delayed operation, after additional diagnostic studies, was performed in 15 per cent more of this group, with the end result that 80 per cent of the total number of patients admitted with a diagnosis of appendicitis was subjected to operation.

In some instances an elective appendectomy was performed, which revealed mechanical appendicitis due to fecaliths, adhesive bands or kinks (Jackson's veil and Lane's kink). Elective surgical intervention on other occasions revealed unusual abnormalities, such as a congenital cyst of the terminal portion of the ileum and Meckel's diverticulitis.

Other pathologic entities (discharge diagnosis) in the cases of patients admitted for appendicitis were:

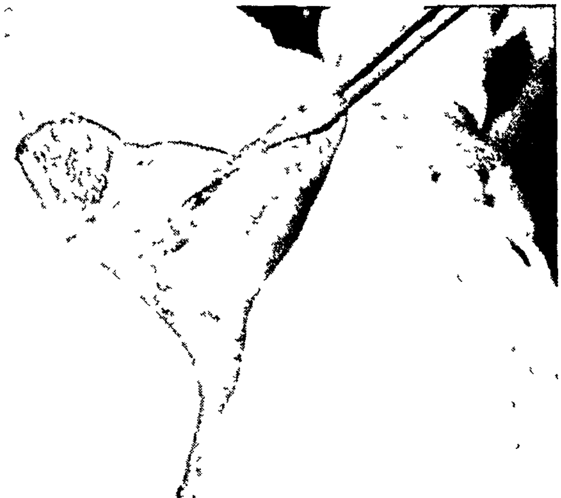


Fig. 1.—Meckel's diverticulum presenting clinical picture of acute appendicitis in a 7-year-old boy. Photograph taken in operating room.

1. Acute mesenteric adenitis, including 2 instances of Hodgkin's disease.
2. Right renal disease (mostly calculi
3. Acute gastroenteritis (especially children).
4. Meckel's diverticulitis.
5. Ileocecal disease (cecal carcinoma
6. Segmental ileitis.

In women, pelvic disease fell into t following groups:

1. Perforated corpus hemorrhagicum
2. Ectopic pregnancy.
3. Salpingitis or hydrosalpinx.
4. Twisted ovarian cyst or fibroid.

In most instances, patients with pelv diseases were transferred to the gyneco logic service for treatment.

Perforated Peptic Ulcer.—The highes incidents of perforated ulcers was recorded in municipal hospitals. It is enlightening to learn that the preoperativ diagnosis of perforated ulcer was 99 pe cent correct, most of the diagnoses bein made by the resident house staff. Operative observations indicated that perforation of duodenal ulcer occurred 95 time as frequently as did gastric ulcer. In cases the lesions proved to be malignan gastric ulcers for which immediate gastrectomy was performed. It is worthy o note that, of the 536 patients with perforated ulcers (exclusive of the 3 wit gastric malignant ulcer), only 6 returne for elective gastrectomy because of duodenal obstruction four to eight month after the emergency procedure.

Acute Cholecystitis.—Immediate operation (within twenty-four hours) appeare to be the choice of procedure for 200 o the 279 patients with acute cholecystitis In the group of 200, exploration of th common duct was performed in 10 pe cent of the cases with 5 per cent successfu removal of a stone in the common duct Actual perforation of the gallbladder du to gangrene was reported in 25 per cen of the operative cases. In 13 per cent o this group there was a small perforation at the fundus, which was sealed off by the omentum. In the remaining 12 per cent, the spillage of bile was localized to the pericholecystic area in 6 per cent of the cases, and actual bile in the peritoneal cavity was reported in 6 per cent of the entire 25 per cent of patients with perforation of the gallbladder.

An observation worthy of note is that cholecystostomy was performed on 10 patients who were extremely ill from acute gangrenous cholecystitis when the gangrene was limited to the fundus.

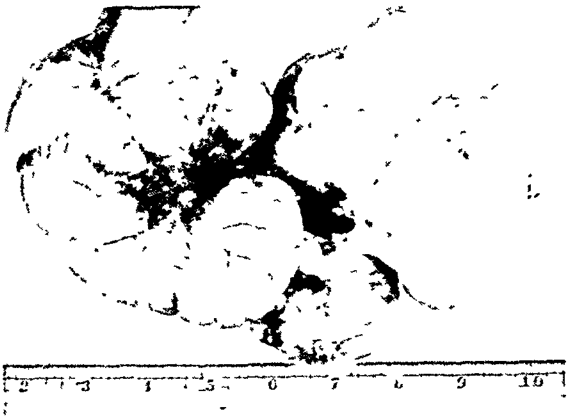
Intestinal Lesions.—Except for acute obstruction of the small bowel, most lesions of the intestines were treated after additional studies. In the majority of instances elective operations were necessary. Carcinoma was the most common cause of obstruction of the large bowel. Other entities encountered were:

1. Diverticulitis.
2. Sigmoiditis.
3. Perforation secondary to ulcerative colitis.
4. Volvulus.

Obstruction of the small bowel was attributed to postoperative adhesions in most cases. Other causes were atresia, stenosis, volvulus, internal hernia, gallstone in the small bowel (ileum), segmental ileitis and neoplasm of the ileum (1 case).

Pancreatic Diseases.—Although 186 patients were admitted to the hospital with a preoperative diagnosis of pancreatic disease, this diagnosis was substantiated by surgical intervention in only 78 cases. Acute pancreatitis was the most common operative observation. No surgical intervention was advised when the diagnosis was determined preoperatively. When laparotomy was performed and pancreatitis observed, the only operation performed was cholecystostomy. Most surgeons preferred not to operate in the presence of pancreatitis. Postgastrectomy pancreatitis was noted in 11 cases when a second exploration was performed because of acute abdominal signs and symptoms.

A most interesting situation was encountered in 12 cases of pancreatic calculi.



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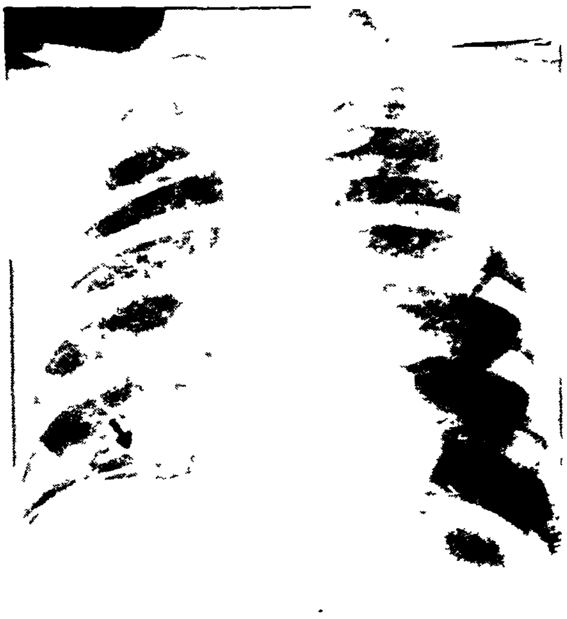


Fig. 3.—Roentgenogram of 35-year-old man with acutely perforated duodenal ulcer. Arrow indicates presence of air under right hemidiaphragm.

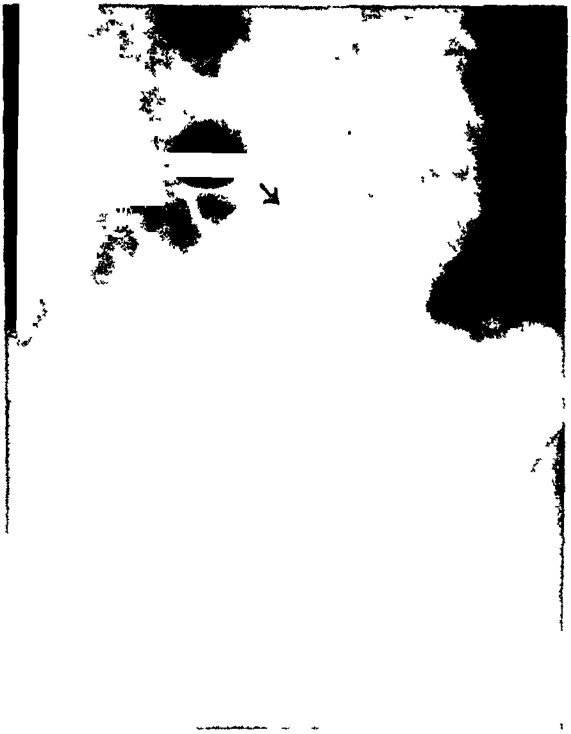


Fig. 4.—Roentgenogram film taken after administration of barium clysma to 12-year-old girl with volvulus of sigmoid. Arrow indicates a beak-like projection characteristic of volvulus in rectosigmoid area.

The patients had symptoms and signs suggestive of cholecystic or pancreatic disease. Roentgenograms showed calculi in the pancreas. Surgical removal of the calculi effected a cure.

Peritonitis.—Although 133 patients were admitted with the diagnosis of peritonitis, this pathologic process was secondary to appendicitis, perforated ulcer, diverticulitis or sigmoiditis.

So-called primary peritonitis was reported in the cases of 5 girls under 10 years of age. Peritonitis of this type is due to certain specific organisms. The infection is thought to spread from the fallopian tube or the intestine. Organisms cultured from the peritoneal fluid are usually pneumococci or streptococci.

The patient is usually a poorly nourished female child. Abdominal pain is present and is not localized to any specific area. A temperature of 104 to 105 F is commonly associated with leukocytosis. Diarrhea and toxic symptoms out of proportion to the local signs are noted. Meteorism is frequent, but abdominal rigidity is minimal.

When the pathologic process advances to pus formation, the toxic symptoms lessen. Gradual painless abdominal distention supervenes. This entity is most often confused with appendicitis. The major distinguishing points are the history, the distention, the atypical abdominal picture, the high fever and the leukocytosis. If a vaginal smear is possible, the offending organism may be identified. The diagnosis of pneumococcic peritonitis is usually made at operation, when the characteristic white flecks are seen in the peritoneal fluid.

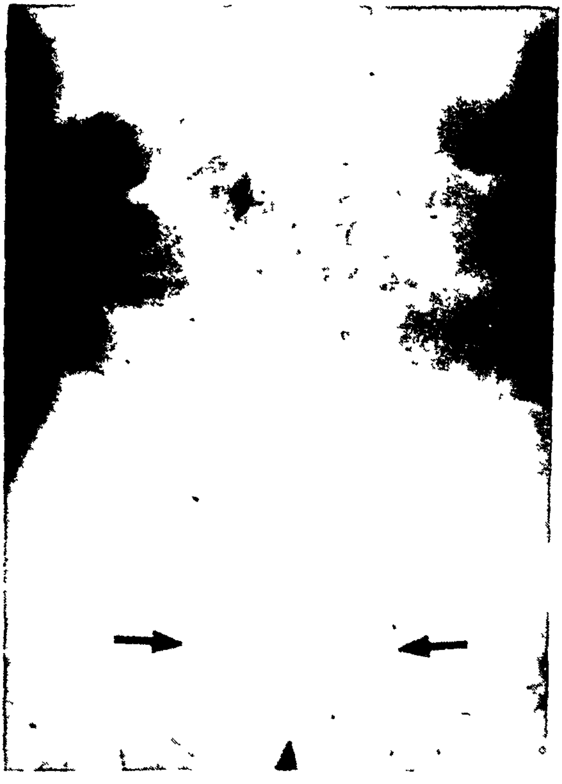


Fig. 5.—Small bowel obstruction in 30-year-old pregnant woman. Arrows indicate presence of fetal head in pelvis. Patient was treated conservatively and had normal baby.

Periodic Peritonitis.—One clinical record from the pediatric service bore the final diagnosis of periodic peritonitis.

American pediatric literature and textbooks do not contain any reports of periodic peritonitis, a syndrome familiar to internists in Australia, as well as to physicians in the Near East and North Africa. This disease, often familial, apparently is limited principally to Arabs, Armenians and Jews, but other peoples occasionally are affected. Periodic peritonitis is characterized by abdominal pain and tenderness, fever, polymorphonuclear leukocytosis, and, at times, pain in the thorax and joints. The duration of an attack is twenty-four to seventy-two hours; it is followed by complete remission, but exacerbations occur at regular intervals, and the remissions may become shorter with age. Most of the patients have undergone appendectomy in childhood. There is no appreciable effect on the general health, growth or development of children so afflicted. In more than half of the reported cases the onset took place in childhood. The condition has been reported as occurring in the United States, Lebanon and North Africa. The cause is unknown. Other authors have not discovered a relation to allergy. No infectious agent has been implicated. The possibility of a neurologic background has been explored. Patients with abdominal

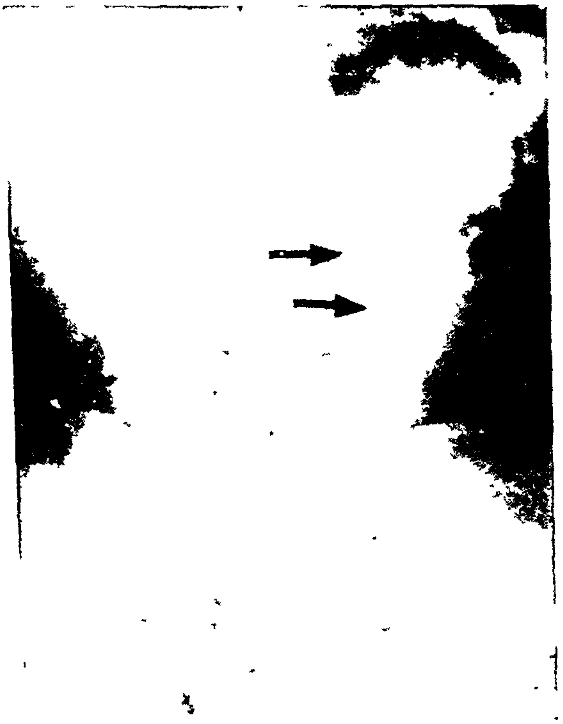


Fig. 6.—Scout film of abdomen of 35-year-old seaman with acute abdominal pain. Admitting diagnosis was penetrating or perforating peptic ulcer. Photograph illustrates presence of pancreatic calculi, which were removed in elective surgical procedure.

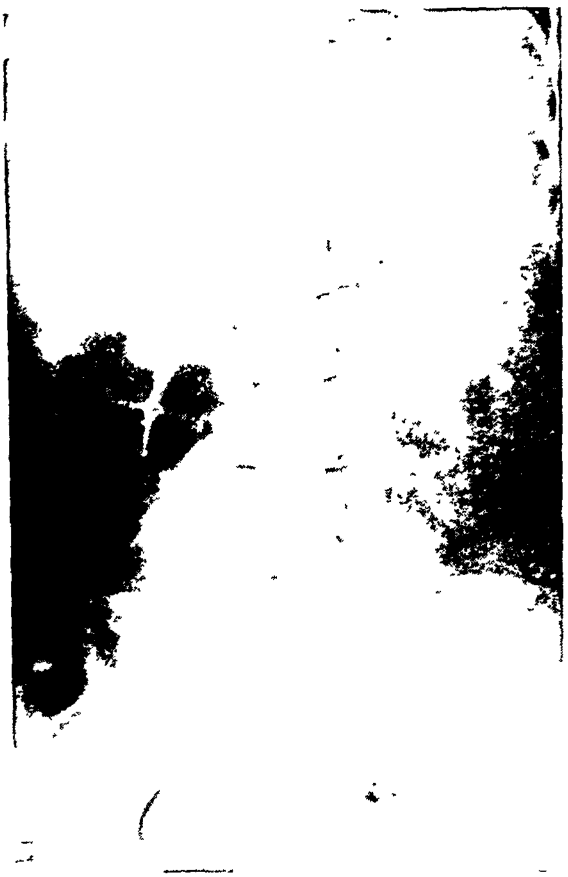


Fig. 7.—Scout film of abdomen of 65-year-old man with acute abdominal complaints. This film suggested small bowel obstruction. Barium enema revealed no obstruction. Exploratory laparotomy revealed gangrene of small bowel due to acute mesenteric thrombosis.

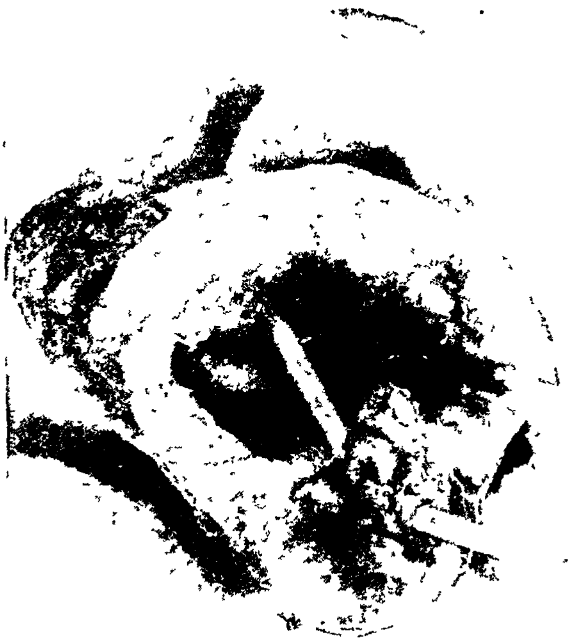


Fig. 8.—Resected portion of stomach, showing a gastric polyp. Patient was 50-year-old man who entered hospital for acute hematemesis. Admitting diagnosis was acute massive hemorrhage secondary to peptic ulcer.

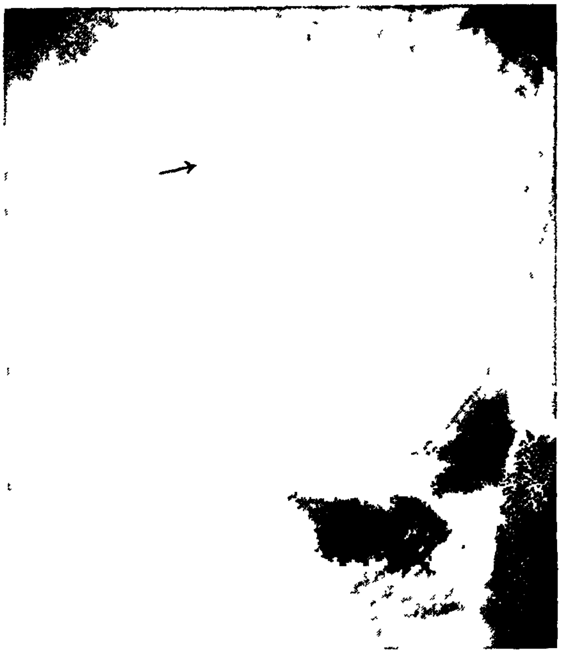


Fig. 9.—Roentgenogram taken after ingestion of barium, showing gastric diverticulum. Patient was 45-year-old man presenting clinical picture of acute peptic ulcer.

epilepsy, however, do not have abdominal physical signs or fever, and their attacks usually are controlled by anticonvulsant medication.

Mesenteric Vascular Occlusion.—Although 72 patients were admitted with the impression of mesenteric vascular occlusion, only 15 actually had this entity. One of the patients in question, a young man, had mesenteric thrombosis secondary to migratory thrombophlebitis.

Another man, 26 years of age, had mesenteric thrombosis with proved Buerger's disease.

Intra-Abdominal Hemorrhage.—A general diagnosis of intra-abdominal bleeding, with or without shock, was made in 73 cases of bleeding peptic ulcer. It is interesting to note that in all of the early cases studied (1948 to 1951) treatment was conservative and that in more recent years operative intervention was more frequent. The mortality rate lessened with the increase in surgical intervention.

Actual intraperitoneal bleeding secondary to laceration of the liver was observed in 55 patients. Splenic injury necessitated splenectomy in 18 instances, 2 of the patients being children, aged 8 to 9 respectively, who had fallen out of a tree.

Gastric hemorrhage secondary to gastric polyp and gastric diverticulum was observed in 2 young men.

Meconium Ileus.—In this entire study of more than 5,000 charts, only 1 instance of meconium ileus was encountered.

The term "meconium ileus" signifies a mechanical obstruction of the small bowel in the newborn, secondary to alterations in the physical and chemical properties of the meconium. These alterations are due essentially to quantitative and qualitative changes in the pancreatic secretions, resulting in tarry meconium that becomes increasingly more viscid in the distal portion of the ileum. It is only within the past few years, with a beginning understanding of pathogenesis and *nutritional requirements*, the ready availability of broad-spectrum antibiotics for long-term administration and an aggressive surgical approach, that survival has been obtained for any of these infants. According to present-day concepts, meconium ileus is one of the manifestations of a generalized disease of the exocrine glands, especially those of the mucus-secreting variety. In 1905 Landsteiner first described meconium ileus and the relation of pancreatic disease in the newborn to the grossly abnormal meconium. Rarely, a comparable pancreatic lesion may be caused by congenital stenosis of the pancreatic ducts, as described by Kornblith and Otani and again by Hurwitt and Arnheim. In 1938 Andersen described fibrocystic disease of the pancreas and contended that meconium ileus is merely an early manifestation of this condition. Farber examined 18 infants who died of meconium ileus and noted in each instance an obstructive lesion in the pancreas characterized by inspissation of secretions, dilation of the ducts, atrophy of the acini and fibrosis of the pancreas. He demonstrated the relation between defective enzyme production in patients with this pancreatic lesion and the altered physical state of meconium in those with meconium ileus. Buchanan and Rapoport concluded that in the presence of meconium ileus the meconium is an abnormal secretory product of the intestinal and gastric glands; that its chemical reaction is more like that of protein than that of the carbohydrates in normal infants, and that its abnormal viscosity is due to its higher mucoprotein content. "It appears that the abnormality in meconium ileus is a result of the production of an excessive amount of mucoprotein which is not digested because of pancreatic achylia." (Shwachman and others; B. Seidenberg, M.D. and E. S. Hurwitt, M.D., Meconium Ileus, Surg. Clin. North America, December 1956.)

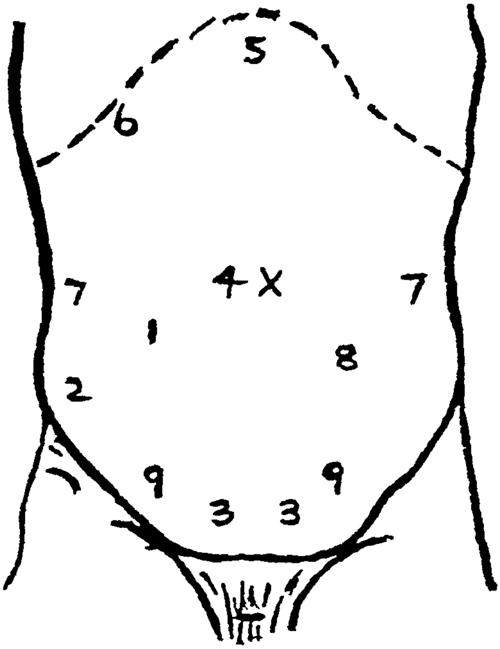


Fig. 10.—Diagram illustrating points of maximum tenderness in acute abdominal states: *1*, appendicitis; *2*, retrocecal appendicitis; *3*, pelvic disease; *4*, Meckel's diverticulitis; *5*, perforated ulcer; *6*, acute cholecystitis; *7*, renal disease; *8*, left-sided diverticulitis or sigmoiditis; *9*, inflammation of vas deferens or tubo-ovarian disease.

CONCLUSIONS

A survey of the records of 5,023 patients admitted to five different hospitals have been studied. Admission to the hospital was prescribed because abdominal symptoms were so severe that hospitalization was indicated. This study would be without purpose if some lesson had not been learned and some knowledge had not resulted. Appraisal of the evidence given in this study produced two kernels of knowledge. First, the data in the accompanying tabulation will aid in arriving at a diagnosis in most instances if the examiner is mindful of the pathologic entities recorded. Second, the diagram in Figure 10 illustrates the areas of maximum tenderness in the presence of the diseases indicated. This, too, is an aid in arriving at a diagnosis when a patient presents himself with an acute pathologic intra-abdominal condition.

Elimination of the following pathologic conditions will assist in arriving at a diagnosis in the majority of patients with acute abdominal signs or symptoms.

I. Acute appendicitis, to be differentiated especially from:
  1. Acute mesenteric adenitis
  2. Right renal disease
  3. Acute gastroenteritis
  4. Meckel's diverticulitis or other congenital anomalies
  5. Pelvic inflammatory disease
  6. Ileocecal spasm
  7. Segmental ileitis

II. Pelvic Disorders
  1. Ruptured corpus hemorrhagicum (mittleschmerz)
  2. Ectopic pregnancy, to be differentiated from other causes of hemorrhage:
  3. Salpingitis
  4. Torsion of ovarian cyst or uterine fibroid
  5. Segmental ileitis

III. Perforated peptic ulcer

IV. Acute cholecystitis

V. Lesions of the colon
  1. Cecum and ascending colon
    a. Neoplastic diseases
    b. Tuberculosis
    c. Cecal perforation
    d. Diverticulitis
    e. Appendices epiploica inflammation
  2. Descending colon and rectum
    a. Acute diverticulitis
    b. Perforation due to colitis
    c. Perforation due to carcinoma
    d. Acute sigmoiditis

VI. Pancreatic diseases
    a. Acute pancreatitis
    b. Traumatic pancreatitis
    c. Pancreatic calculi

VII. Obstruction of the small bowel
  1. Developmental anomalies
    a. Atresia and stenosis
    b. Malrotation (volvulus)
  2. Hernia
    a. External hernia
      (1) Ventral
        (a) Epigastric
        (b) Incisional
      (2) Inguinal and canal of Nuck
      (3) Umbilical and femoral
      (4) Lumbar and obturator
      (5) Sciatic and perineal
    b. Internal
      (1) Paraduodenal and Retzius'
      (2) Mesenteric and Winslow's
  3. Postoperative adhesions
  4. Gallstones
    a. Reflex ileus
    b. Impacted calculus in the gastrointestinal tract
  5. Segmental ileitis, to be differentiated from:
    a. Appendicitis
    b. Meckel's diverticulitis
    c. Neoplasm of ileum
  6. Intussusception
  7. Volvulus

VIII. Obstruction of the large bowel
  1. Fecal impaction
  2. Carcinoma
  3. Intussusception
  4. Volvulus
  5. Conditions confused with obstruction of the large bowel:
    a. Congenital megacolon
    b. Ascites
    c. Large ovarian cyst
    d. Reflex paralysis of colon

XI. So-called primary peritonitis
  1. Pneumococcic
  2. Streptococcic
  3. Tuberculous
  4. Associated with rheumatic fever (myositis)

X. Mesenteric vascular occlusion

XI. Traumatic injuries to the abdomen
  1. Penetrating wounds
  2. Nonpenetrating wounds
  3. Subparietal rupture of the intestine
  4. Injuries to the liver, spleen and kidney
  5. Rupture of the urinary bladder
  6. Retroperitoneal hemorrhage due to:
    a. Pelvic fractures
    b. Kidney lacerations
    c. Tearing of perinephritic vessels
  7. Laceration of the mesenteric root
  8. Ingested foreign bodies

XII. Acute physiologic disturbances
  1. Metabolic disorders
    a. Diabetes mellitus
    b. Uremia d. Porphyria
    c. Addison's disease
  2. Blood dyscrasias
    a. Drepanocystosis
    b. Leukemia (in children)
    c. Henoch's pupura
  3. Cardiovascular diseases
    a. Congestive heart failure
    b. Myocardial infarction
    c. Pericarditis
    d. Abdominal aneurysm
    e. Dissecting aneurysm
  4. Gastrointestinal allergy
    a. Serum sickness
    b. Black widow spider bite
  5. Infectious diseases
    a. Typhoid fever
    b. Pneumonia
    c. Measles
  6. Intoxications
    a. Alcoholism
    b. Lead poisoning

XIII. Neurologic Disorders
  1. Girdle pains of tabes dorsalis
  2. Herpes zoster
  3. Intercostal neuralgia
  4. Compression of the spinal nerve due to congenital anomalies and diseases of the spinal column.

RÉSUMÉ

Le principe chirurgical cardinal de l'auteur est qu'un diagnostic exact n'est pas essentiel pour un traitement efficace. Lorsqu'un effort sincère a été fait en vue d'un diagnostic précis et que l'on a obtenu un résultat nul ou douteux, la question importante qui se pose est de savoir si le patient est un cas chirurgical et, dans l'affirmative, si l'opération est urgente ou non. En cas d'urgence il faut déterminer l'opérabilité du patient. Sera-t-il à même de supporter une intervention majeure? Lorsqu'un choix s'impose au chirurgien, une évaluation correcte de l'opérabilité du malade peut avoir plus de valeur qu'un diagnostic exact en ce qui concerne la vie du malade.

RESUMEN

Un principio fundamental según el autor es que un diagnóstico correcto no es esencial para un tratamiento correcto. Cuando se ha hecho un esfuerzo sincero para conseguir un diagnóstico preciso y este ha sido infructuoso o equívoco, la próxima decisión importante es la de si el enfermo plantea o no problema quirúrgico. Si se trata de un problema quirúrgico debe entonces decidirse si la operación ha de ser o no inmediata. Si se considera la operación inmediata el próximo paso es el de determinar la operabilidad del enfermo. ¿Podrá tolerar la operación grave? Cuando el cirujano se ve forzado a tomar una decisión importa más una evaluación correcta de la operabilidad que un diagnóstico preciso ya que lo que importa es la vida del enfermo.

Como en todo nuevo proceder, deben tomarse nuevas precauciones. Pero si éstas se observan adecuadamente la enzima

The inflammatory process frequently causes loops of intestines to adhere to each other, and abscesses and internal fistulas may form. The inflammation may so reduce the lumen of the bowel that obstructive symptoms result. Crohn's disease should be suspected in cases of multiple fistulas of the abdominal wall and multiple abscesses of the perineum. It is questionable whether the acute phase of the disease is the same pathologic process as the subacute and chronic phases.

Symptoms and Diagnosis.—The disease was originally considered rare but is now being recognized with increasing frequency. During our first ten years of practice it was not recognized, but in the past ten years 11 patients have been operated upon. The disease affects male and female patients with about equal frequency, usually in young adult life. In the acute stage regional ileitis usually is indistinguishable from acute appendicitis.

In the chronic stage there is no constant clinical picture. The symptoms may be divided into three categories. The first to appear are symptoms of ulcerative enteritis, i.e., crampy abdominal pain, diarrhea and mucus in the stools, usually without the presence of blood. The patient generally has secondary anemia, loss of weight, malaise and fever. If the disease is high in the intestinal tract, vomiting may be a prominent symptom, as it was in our case of duodenal disease. The patient may be mentally depressed.

The second group of symptoms consists of incomplete or complete intestinal obstruction with colicky abdominal pain, nausea and vomiting. In cases of advanced involvement, thickening in the intestinal wall, with cicatrization and shortening of the bowel, progress to produce the obstruction. In this stage an abdominal mass may be present in the right lower abdominal quadrant.

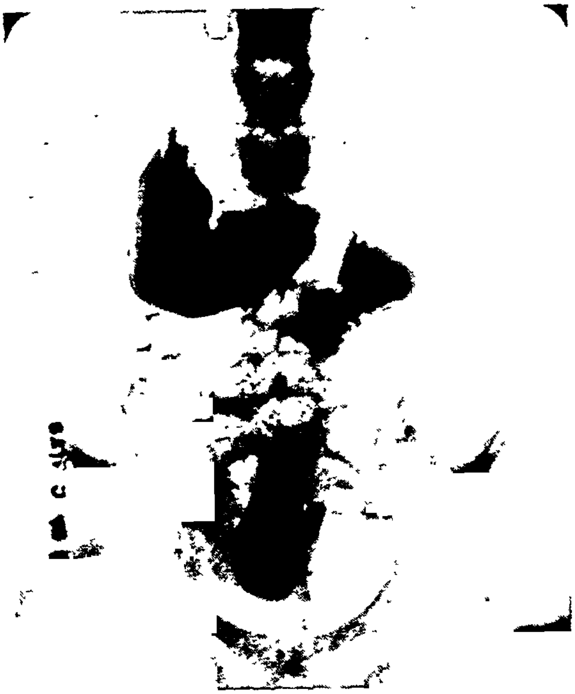
The third group includes fistula formation. The patient may have abscesses of the perineal or abdominal wall that lead to external fistulas. Intra-abdominal abscesses and intra-abdominal fistulas may develop. Most often the fistulas form between adjacent loops of ileum, but they may occur between the ileum and the sigmoid, cecum, rectum, vagina or uterus. The diagnosis may be suspected from the clinical picture as aforedescribed, but establishment of the diagnosis is usually made either by roentgen study of the bowel or by direct examination at the time of laparotomy.

Surgical Treatment.—Surgical treatment of regional ileitis has been looked upon with some disfavor because of the frequency of recurrence after operation, but at present this form of treatment offers the most satisfactory results and is the only definitive treatment available. The disease may be divided into two distinct groups from a surgical standpoint: (1) acute and (2) subacute and chronic.

The acute condition may or may not be a forerunner of the latter. In this group are the conditions that are clinically indistinguishable from acute appendicitis, which is usually the preoperative diagnosis. At operation a large phlegmonous mass is encountered in the terminal portion of the ileum. Treatment should be conservative. The abdomen should be closed with or without appendectomy. Some authors originally maintained that removing the appendix increased the tendency toward fistula formation, but subsequent experience does not bear this out.[5] The patient almost invariably recovers spontaneously or with the help of antibiotics. Whether or not the antibiotics contribute to the recovery is not clear. This is the type of ileitis usually encountered in children, and there is serious doubt that it is the same disease as the chronic sclerosing type.

We have operated upon 5 patients with the acute disease, all with histories of abdominal pain of a few hours' to a few days' duration and in all of whose cases a preoperative diagnosis of acute appendicitis was made. All had terminal ileitis. The appendix was removed in all cases. No fistulas developed. In 2 cases only an appendectomy was done; in 1 the involved ileum was resected, and in the other 2 an ileotransverse colostomy was performed. All patients recovered uneventfully and at the time of writing, three to ten years after the operation, have had no recurrence of the disease.

Subacute or chronic ileitis is a much more difficult condition to appraise from the surgical standpoint. When there is obstruction or perforation with abscess or fistulation, operation is definitely indicated. In certain other cases operation is required owing to intractability. Recurrence is more prone to occur with this type, whatever the surgical procedure chosen. Certain principles of treatment have resulted from appraisal of the collective experience of many authors.[6] The bowel must be divided well proximal to the disease. After this, a bypass or a resection may be done, depending on the extent of the disease, the condition of the patient and the experience of the surgeon. Marshall[7] has expressed the opinion that resection of the affected ileum together with the right colon offers the best chance of cure, while others prefer an ileotransverse colostomy or, when the proximal portion of the colon is involved, an ileosigmoidostomy. Our experience with bypassing the affected ileum by doing an ileotransverse colostomy without transecting the ileum in 2 cases was disappointing. In both cases further surgical intervention was required within six months, although both patients improved temporarily. On both, a right colectomy with removal of the affected ileum was performed as a second procedure, with good results.



Inflammation of regional Crohn's disease extending throughout duodenum and involving proximal portion of jejunum, terminal portion of ileum and prepyloric region of stomach.

When there are recurrent postoperative symptoms that do not respond to medical management, further operation must be considered. These are the cases that most tax the surgeon's judgment. If the original operation was a bypass procedure, with the diseased bowel left in, and there is no extension of the disease, resection may be decided upon. On the other hand, if the disease has progressed from the ileum down into the colon, an ileosigmoidostomy may be used.

The disease has a predilection to recur in the reconstituted terminal portion of the ileum. It may be necessary to do another resection of the ileum and an ileocolostomy. There is danger in removing too great a length of small bowel in the presence of this disease, for the patient may become an "intestinal invalid" owing to malabsorption and malnutrition.

The inflammatory process frequently causes loops of intestines to adhere to each other, and abscesses and internal fistulas may form. The inflammation may so reduce the lumen of the bowel that obstructive symptoms result. Crohn's disease should be suspected in cases of multiple fistulas of the abdominal wall and multiple abscesses of the perineum. It is questionable whether the acute phase of the disease is the same pathologic process as the subacute and chronic phases.

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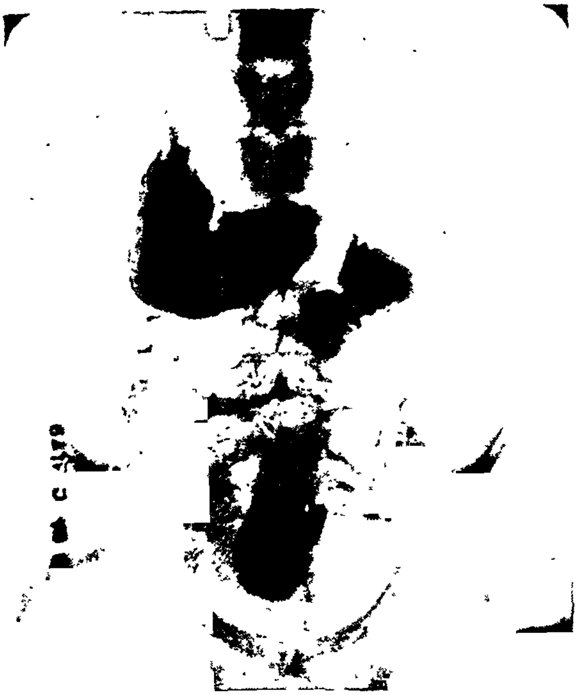
The third group includes fistula formation. The patient may have abscesses of the perineal or abdominal wall that lead to external fistulas. Intra-abdominal abscesses and intra-abdominal fistulas may develop. Most often the fistulas form between adjacent loops of ileum, but they may occur between the ileum and the sigmoid, cecum, rectum, vagina or uterus. The diagnosis may be suspected from the clinical picture as aforedescribed, but establishment of the diagnosis is usually made either by roentgen study of the bowel or by direct examination at the time of laparotomy.

Surgical Treatment.—Surgical treatment of regional ileitis has been looked upon with some disfavor because of the frequency of recurrence after operation, but at present this form of treatment offers the most satisfactory results and is the only definitive treatment available. The disease may be divided into two distinct groups from a surgical standpoint: (1) acute and (2) subacute and chronic.

The acute condition may or may not be a forerunner of the latter. In this group are the conditions that are clinically indistinguishable from acute appendicitis, which is usually the preoperative diagnosis. At operation a large phlegmonous mass is encountered in the terminal portion of the ileum. Treatment should be conservative. The abdomen should be closed with or without appendectomy. Some authors originally maintained that removing the appendix increased the tendency toward fistula formation, but subsequent experience does not bear this out.[5] The patient almost invariably recovers spontaneously or with the help of antibiotics. Whether or not the antibiotics contribute to the recovery is not clear. This is the type of ileitis usually encountered in children, and there is serious doubt that it is the same disease as the chronic sclerosing type.

We have operated upon 5 patients with the acute disease, all with histories of abdominal pain of a few hours' to a few days' duration and in all of whose cases a preoperative diagnosis of acute appendicitis was made. All had terminal ileitis. The appendix was removed in all cases. No fistulas developed. In 2 cases only an appendectomy was done; in 1 the involved ileum was resected, and in the other 2 an ileotransverse colostomy was performed. All patients recovered uneventfully and at the time of writing, three to ten years after the operation, have had no recurrence of the disease.

Subacute or chronic ileitis is a much more difficult condition to appraise from the surgical standpoint. When there is obstruction or perforation with abscess or fistulation, operation is definitely indicated. In certain other cases operation is required owing to intractability. Recurrence is more prone to occur with this type, whatever the surgical procedure chosen. Certain principles of treatment have resulted from appraisal of the collective experience of many authors.[6] The bowel must be divided well proximal to the disease. After this, a bypass or a resection may be done, depending on the extent of the disease, the condition of the patient and the experience of the surgeon. Marshall[7] has expressed the opinion that resection of the affected ileum together with the right colon offers the best chance of cure, while others prefer an ileotransverse colostomy or, when the proximal portion of the colon is involved, an ileosigmoidostomy. Our experience with bypassing the affected ileum by doing an ileotransverse colostomy without transecting the ileum in 2 cases was disappointing. In both cases further surgical intervention was required within six months, although both patients improved temporarily. On both, a right colectomy with removal of the affected ileum was performed as a second procedure, with good results.



Inflammation of regional Crohn's disease extending throughout duodenum and involving proximal portion of jejunum, terminal portion of ileum and prepyloric region of stomach.

When there are recurrent postoperative symptoms that do not respond to medical management, further operation must be considered. These are the cases that most tax the surgeon's judgment. If the original operation was a bypass procedure, with the diseased bowel left in, and there is no extension of the disease, resection may be decided upon. On the other hand, if the disease has progressed from the ileum down into the colon, an ileosigmoidostomy may be used.

The disease has a predilection to recur in the reconstituted terminal portion of the ileum. It may be necessary to do another resection of the ileum and an ileocolostomy. There is danger in removing too great a length of small bowel in the presence of this disease, for the patient may become an "intestinal invalid" owing to malabsorption and malnutrition.

Antimicrobials: The Two-Edged Sword

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CHICAGO, ILLINOIS

AFTER the introduction of antimicrobial therapy there was a rapid and remarkably effective documentation that led to the glowing prediction that certain diseases would be completely controlled by 1960 and that the problem of infection was well on the way to solution. Within a few years it became apparent that enthusiasm had exceeded the facts, and emphasis was placed on the limitations of the agents available. In addition to the introduction of new agents, it became essential to study the nature of the new problems and their causes, including the role, if any, of antimicrobial therapy itself in their genesis.

In this paper I shall try, as the title indicates, to present a balanced picture, lest enthusiasm for success mask the truth of failure or the pessimism concerning the common problems now encountered every day lead to irrational opinions that would cause the loss of well-known benefits.

Both the advantages and the potential dangers of antimicrobial therapy are presented. The principal difficulties are caused by resistant organisms infecting a host with impaired defenses. A deepened understanding of the host-parasite relation, plus improvement in the general level of public health, would do much to solve the problems that still attend this form of treatment.

In the accompanying symbolic drawing the positive side of the picture is given on the left and the adverse effects on the right. At the sharpest part of the sword, the point, are the infections—a large number—that have been controlled at the clinical level with more than 90 per cent effectiveness. Up the blade, toward the hilt, are the increasingly less satisfactory infections to treat. To the right it is shown that resistant strains, both those for which an effective agent has never been found and those which have become resistant, are the major cause of failure and concern. The principal source of resistance has been their spread; this problem, therefore, has been encountered primarily in hospitals, where the chances of spread are greatest.

In Table 1 it is shown that the infections treated most satisfactorily are caused by organisms that are highly susceptible on a weight basis to at least one, and frequently several, antibiotics. Fortunately, among these infections are many of the most common offenders, and this group therefore immediately comes to mind when one thinks of the conquest of infection. Even here, however, it should be emphasized that the results are not perfect and that success of the order of 90 per cent is a reasonable estimate. Many of the factors, such as those related to the host, age, underlying disease and delay in therapy, are at the root of this problem, as they are at the root of the more frequent failures in other groups.

Because of the usually high sensitivity

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TABLE 1.—*Causative Organisms and Characteristics of Infections Which Can Be Successfully Treated in at Least 90% of Cases*

1. Organism generally highly susceptible on weight basis
   - Gp. A. streptococcus
   - Pneumococcus
   - Gonococcus
   - Rickettsia
   - Shigella
   - Hemophilus
   - Pasteurella
   - E. coli (nonhosp. strain)
   - Treponema
   - Actinomycosis
   - Blastomycosis
   - Mycobacterium tuberculosis
2. Prophylaxis frequently possible
3. Combinations generally not needed (exception: tuberculosis)
4. Determinations of sensitivity generally not needed

TABLE 2.—*Causative Organisms and Characteristics of Infections Which Can Be Treated Successfully in 60 to 90% of Cases*

1. Sensitivity varies, but generally is lessened sensitive on the basis of weight
   - Gp. B.C. and G. streptococcus
   - Streptococcus viridans
   - Meningococcus
   - Staphylococcus (nonhosp. strain)
   - C. diphtheria
   - Psittacosis
   - E. coli (hosp. strain)
   - Klebsiella-aerobacter (nonhosp. strain)
   - Other coliform · (nonhosp. strain)
   - Salmonella typhosa
   - Brucella sp.
   - Bacteroidies sp.
   - Nocordia
   - Histoplasmosis
   - Cryptococcosis
   - Amoeba
2. Prophylaxis less effective but possible
3. Combinations established for Streptococcus viridans
   recommended for Staphylococcus (nonhosp.)
   Klebsiella, Aerobacter and other coliform bacilli (nonhosp.)
   Brucellosis
4. Sensitivity tests: often to guide dose, occasionally to make choice

of the organisms and the infrequent development of resistance, prophylactic treatment is possible, particularly for the coccal infections, and multiple drug therapy is needed only for tuberculosis. The security the clinician may permit himself as to the uniformity of the susceptibility of many of these species makes the performance of sensitivity tests unnecessary, as a rule, except in the presence of tuberculosis or when a patient is responding poorly.

Table 2 lists organisms that commonly cause infections which are somewhat more difficult to treat successfully and which, for a variety of reasons, have a higher death rate. Probably of considerable importance is the fact that strains of these organisms vary in their sensitiveness to the several antibiotics and in general require a higher concentration of the agents before growth is inhibited or death occurs in *in vitro* systems. Prophylaxis against these organisms has not been as successful as has that against the more responsive organisms; nevertheless, it is still possible with the meningococci and Streptococcus viridans. Because the infections are more difficult to treat, combinations of antibiotics have frequently been tried. For patients with endocarditis caused by S. viridans a combination of penicillin and streptomycin seems well established as the medicament of choice. Combination therapy has also been used with some success for infections due to the staphylococcus, Brucella and some other gram-negative rods. That there is a clear superiority of these regimens, however, is not established. The variability in sensitiveness of these organisms often requires that the dose of the drug used be unusually large. For this reason "sensitivity tests" are frequently of great help in indicating the appropriate dose. It is important that tube dilution, or a test of similar accuracy, be used for this purpose. Generally, knowledge of the species of organism is sufficient to indicate a wise choice of the agent to be used. This is not always true, for example, with the coliform organisms and the staphylococcus, even when they are acquired outside the hospital environment, and sensitivity tests, even of the disc type, may help make the decision.

In Table 3 are shown the organisms commonly isolated from infections that are difficult to treat. Many of these organisms will be recognized as secondary invaders and frequent causes of infection in chronically ill or otherwise debilitated patients. Coupled with the fact that they occur in hosts with poor defense mechanisms, they are generally resistant to most agents and, as part of the "normal flora" of many personnel and other patients, are readily transmitted in the hospital environment. Because the use of antibiotics, by removing the competing flora, favors the spread or implantation of these strains, prophylaxis has been unsuccessful. In fact, their overgrowth has made attempts at prophylaxis for some patients, notably those in coma, with heart failure or with tracheostomies, harmful rather than beneficial. Many of the drugs useful in the treatment of infections of this group are the more toxic ones, and yet they are the patient's only hope; consequently, they are still used. It is possible at times, by the judicious use of combination therapy, to obtain a more effective antibiotic effect without reaching highly toxic ranges. Multiple drug therapy, therefore, is often life-saving. It is apparent that the difficult therapeutic problem makes the use of sensitivity tests valuable, particularly in looking for clues as to potential drugs to use together and as a guide to dosage of the less toxic agents.

As has been indicated, the use of antibiotics as prophylactic agents has had varying success. Table 4 summarizes the situation in this respect. There seems to be little question of the wisdom of prophylaxis in the conditions for which it is listed as recommended. The evidence is also clear that the drugs have failed and made matters worse in those conditions listed in the "failed" category. On the other hand, no conclusive studies have been made in the situations listed as doubtful. The evidence suggests, however, that the

TABLE 3.—*Causative Organisms and Characteristics of Infections Which Can Be Successfully Treated in Less than 60% of Cases*

1. *In vitro* resistance generally variable or high
    - Enterococcus
    - Staphylococcus (hosp. strains)
    - Clostridium sp.
    - Leptospirosis
    - Klebsiella-aerobacter (hosp. strains)
    - Other coliform (hosp. strains)
    - Salmonella sp. (other than typhoid)
    - Proteus sp.
    - Candida sp.
    - Coccidioidomycosis
    - Other fungi
2. Prophylaxis usually harmful
3. Combinations often tried
4. Sensitivity determination needed
    - Often for choice
    - Often for guide to treatment

TABLE 4.—*Indications for Antibiotic Prophylaxis*

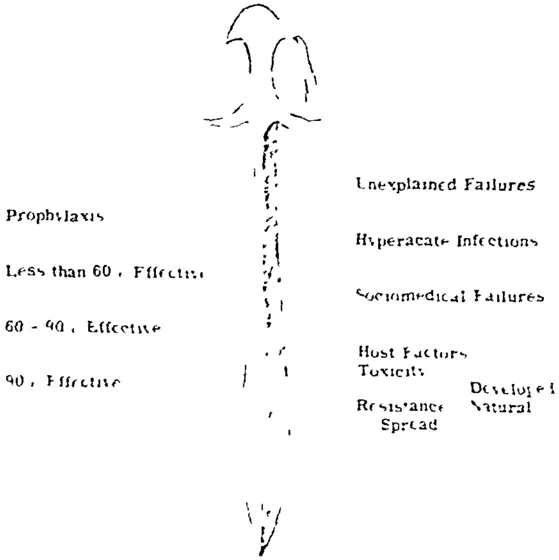
Recomended for	Rheumatic fever Meningococcus Streptococcus viridans Operation through contaminated field
Possible for	Gonorrhea Tuberculosis Bronchiectasis
Doubtful for	Clean operations Status postpartum Status postcatheterization
Failed in treatment of	Coma, including cerebral vascular accidents Cardiac failure Status post-tracheotomy

danger of favoring the difficult-to-treat organisms is real and probably outweighs the potential for good. Prophylaxis has proved to be of some benefit to patients exposed to gonorrhea or patients with tuberculosis or bronchiectasis. How wide an application should be made is not clear at present.

The sharpest point of the adverse edge of the antimicrobial sword is the occurrence of resistant strains of organisms. As is indicated in Table 5, resistance is primarily a natural phenomenon. Almost all of the viruses and many of the more difficult-to-treat bacteria have never really been uniformly sensitive to any agent. In addition, with organisms such as the staphylococcus, M. tuberculosis and many coliform bacilli there has been repeated demonstration of the development of resistant strains in a patient while one of the agents is being given. As is indicated, certain antimicrobial agents are prime offenders in this respect. It is generally recommended that these particular drugs be used in combination with other agents when possible, since this procedure has been shown, with tuberculosis at least, to mitigate the overgrowth of resistant mutants.

The overwhelming cause of the problem of resistant bacterial infections as it exists today is the spread of resistant organisms in environments such as a hospital, where administration of the drugs in some patients curtails the spread of the naturally sensitive strains and allows selective propagation of the resistant forms. Every patient given antibiotics is an important link in this chain for organisms resistant to each drug he is receiving. Consequently, any unnecessary drug therapy or combination, such as penicillin and streptomycin when penicillin alone is sufficient, makes the matter worse. It is for this reason that the agents should only be used when indicated and the simplest effective treatment should always be used.

Another part of the adverse side of the antimicrobial sword arises from misleading and inaccurate sensitivity tests. Both the clinicians and the laboratories have contributed to this unhappy situation. The use of the disc test as the sole method of determining bacterial sensitiveness has occurred primarily because these tests were so frequently requested that a simple test such as this was the only way the



The "two-edged sword" of antimicrobial therapy.

TABLE 5.—*Mechanisms of Resistance of Microbes to Antimicrobial Therapy*

1. Natural
   - a. Viruses
   - b. Many organisms of the group under 60%
2. Developed
   - a. Infrequent
     1. Tuberculosis
     2. Staphylococcus
     3. Many gram-negative rods
   - b. Certain Drugs
     1. *Isoniazid*
     2. Streptomycin
     3. Erythromycin
     4. Novobiocin
   - c. Combinations find general use
3. Spread of resistant strains is major cause of drug failure
   - a. Overuse is an important determinant
   - b. Combinations make matters worse

TABLE 6.—*When to Perform Sensitivity Determinations*

1. Not needed in many of 90% group; clinical diagnosis and empiric treatment—save specimens or culture
2. In 60-90% group, diagnosis, culture and empiric treatment; save culture
3. If no response, use tube dilutions
4. Screening tests needed for group under 60%
5. Guide to dose needs tube dilution

TABLE 7.—*Other Causes of Failure*

Toxicity: avoid unnecessary use
Need to study host
Need to improve sociomedical factors
Need for vaccines
Need for clinical pharmacologic studies of unexplained failures

laboratory could mass-produce the result. The fact, now obvious, that even the basic standardization of the materials used has been grossly inaccurate and that the results therefore have been essentially uninterpretable indicates the fallacy of the belief that these tests as performed in the last ten years have merit. Moreover, even a well-performed disc test can only give a clue as to what drug may be useful, and this is already known for many of the organisms as listed in Tables 1 and 2. For this reason it is best not to overburden the laboratory with routine tests on these organisms. In fact, as is indicated in Table 6 in the case of pneumococcic infections with typical clinical pictures, and some of the other organisms listed in Table 1, it is not necessary to isolate the organism, but the appropriate specimen may be saved for use, if needed, should the response be less than optimal. Because of the problem of adequate treatment to prevent rheumatic fever, throat cultures for Group A hemolytic streptococci are recommended. In the presence of any of the infections listed in Table 2, isolation and identification of the organism are desirable and will usually give more accurate information than does the customary disc test. A screening test, however, is generally needed when the organisms listed in Table 3 are encountered. It is important to emphasize the fact that sensitivity determination when accurately done, as in the tube dilution method, is often a mandatory guide to proper dosage in the more difficult-to-treat infections.

In Table 7 are listed other parts of the adverse edge of the sword. Drug toxicity should not be taken lightly. Anaphylaxis caused by penicillin and blood dyscrasias caused by chloramphenicol and other agents are life-threatening. Serious permanent damage, such as deafness following dihydrostreptomycin, is not a matter to be ignored. The superinfections, such as staphylococcal enteritis, are also often fatal and occur after the use of otherwise relatively nontoxic drugs, such as tetracycline and even erythromycin. Toxicity definitely limits the usefulness of polymyxin, kanamycin and ristocetin.

Principal among the failures in treatment of acute primary bacterial infections are the cases of those patients who die within twenty-four to forty-eight hours of hospitalization. Such deaths have constituted over 60 per cent of the total here. About half of the patients had fulminating infections in which the total illness lasts less than twenty-four hours. The only real approach to such patients seems to be in the field of prevention, probably by the use of appropriate vaccines should they be developed. The other half of this group of rapid fatalities are patients who have been neglected, have failed to seek or obtain medical aid or have been inadequately treated. Community organization and medical and public education seem to be the approach needed to these problems unless vaccines become available.

Besides these acute infections as indicated in Table 7 the poor resistance of many hosts is fundamental to drug failure, particularly with the infections listed in Tables 2 and 3. Much more study of specific and nonspecific defense mechanisms is needed to eliminate the problems or permit their correction.

Even with the infections listed in Table 1, as well as with all others, there are unexplained drug failures. Some of these probably are explained by poor absorption of drugs or unusually rapid metabolism or excretion. When the drugs were first introduced, the use of laboratory procedures to regulate the dose of antibiotics was helpful in eliminating this cause of some of the failures. As the drugs have been purified and compounded in more reliable forms and as the laboratories have given up all but the disc type of test, these laboratory controls have gone out of style. To patients who are difficult to treat, particularly those in whom the response is inadequate, such determinations may still be helpful and their use should be reinstituted.

SUMMARY

The antimicrobial agents, while not untarnished, have stood the test of time. The real and lasting gains are evident in that many of the common bacterial infections are controlled in more than 90 per cent of the cases. Almost all infections except those caused by the viruses are, at least at times, treatable.

The principal difficulties are encountered when resistant organisms infect a host with impaired defenses. Overuse of antibiotics contributes to the problem. Lack of adequate utilization of laboratory procedures lowers the salvage rate among patients who are difficult to treat. Drug toxicity is a problem of no mean proportions.

The ultimate solution of some of these problems probably will be found in a better understanding of the host-parasite relation, through the use of vaccines or other specific or nonspecific defense substances. Improvement of the social organization so far as the availability of optimal medical care is concerned would also solve some of the problems that remain.

ZUSAMMENFASSUNG

Die das Bakterienwachstum hemmenden Medikamente haben wenn auch nicht ohne gewisse Einschränkungen ihre Probezeit bestanden. Ihr wirklicher und endgültiger Wert drückt sich in der Tatsache aus, dass viele der gewöhnlichen bakteriellen Infektionen in mehr als 80 Prozent der Fälle beeinflusst werden können. Fast alle Infektionen ausser den durch einen Virus hervorgerufenen sind wenigstens zeitweise der Behandlung zugänglich. Schwierigkeiten entstehen hauptsächlich, wenn widerstandsfähige Organismen einen Wirt mit herabgesetzten Abwehrkräften finden. Die übermässige Anwendung von Antibiotika trägt ferner zu dem

Problem bei. Unzulängliche Auswertung von Laboratoriumsuntersuchungen setzt die Heilungsquote schwer zu behandelnder Kranker herab. Die Toxizität der Mittel bildet ein Problem von nicht zu unterschätzenden Ausmassen.

Die endgültige Lösung mancher dieser Probleme wird in einem besseren Verständnis der Beziehung zwischen Wirt und Parasit durch die Anwendung von Vakzinen oder anderer spezifischer oder nicht spezifischer Abwehrstoffe zu finden sein. Auch die Verbesserung sozialer Verhältnisse, soweit sie die Verfügbarkeit bester medizinischer Versorgung betreffen, dürfte zur Lösung mancher weiterer Probleme beitragen.

RÉSUMÉ

Les agents microbicides ont subi victorieusement, avec quelques réserves seulement, l'épreuve du temps, et il est possible aujourd'hui de guérir plus de 80% des cas d'infections bactériennes courantes. En fait, presque toutes les infections—sauf celles causées par les virus—peuvent être traitées avec succès si elles sont prises au bon moment. Les difficultés auxquelles l'on se heurte proviennent principalement d'organismes résistants chez un malade en état de moindre résistance, et de l'abus des antibiotiques qui contribue à diminuer la défense organique. Le taux de guérison des cas graves peut être également compromis par des examens de labora[illegible]
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RIASSUNTO

Gli agenti antimicrobici hanno resistito alla prova del tempo. I loro vantaggi reali e durevoli sono rappresentati dal fatto che molte delle piú comuni infezioni batteriche vengono controllate in piú dell'80% dei casi. Quasi tutte le infezioni, tranne quelle causate dai virus, sono trattabili. Le principali difficoltá si incontrano, quando germi resistenti infettano un organismo con scarse difese; l'impiego indiscriminato di antibiotici ha contribuito a sollevare questo problema. La mancanza di un impiego adequato dei metodi di laboratorio ha abbassato le percentuali di guarigione nei malati difficili da trattare. Anche la tossicitá di alcuni farmaci é un problema di non minore importanza.

La soluzione di alcuni di questi problemi probabilmente scaturirá da una miglior conoscenza dei rapporti fra ospite e parassita, mediante l'impiego di vaccini o di altre sostanze di difesa specifiche o non specifiche. Anche il miglioramento della organizzazione sociale per quanto si riferisce alla disponibilitá delle cure migliori contribuirá a risolvere i problemi residui.

RESUMEN

Los agentes antimicrobianos, cuando se conservan en buenas condiciones, han resistido la prueba del tiempo. Su valor real y permanente se hace evidente ya que en muchas de las infecciones comunes se
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solución definitiva de muchos de estos problemas se encuentra en un mejor conocimiento de la relación huesped-parásito por medio del empleo de vacunas en otras sustancias de defensa específica o no.

La mejora de la organización social así como el proporcionar cuidados médicos óptimos ha de resolver algunos de los problemas que siguen existiendo.

SUMARIO

Os agentes antimicrobianos tem resistido a proa do tempo. Os resultados e progressos são evidentes e muitas das infecções comuns exceto as virosicas tem sido controladas em 80% do tempo necessario anteriormente. As dificuldades principais são os organismos resistentes e a fraquesa de defesa organica, para a que contribue o abuso dos antibioticos.

A falta de testes laboratoriais adequados reduz o aproveitamento pelo paciente. A solução para esses problemas talves seja encontrada na compreensão no problema parasita hospedeiro, atraves o uso de vacinas ou outras substancias não especificas de defesa organic a. Os outros problemas serão solvidos pela organisação social e os cuidados medicos.

Lewis and Clark mentioned the sprinkling of powdered willow bark on wounds by the Plains Indians. However, there is little evidence to substantiate the thesis that the Indians in general were familiar with sutures. They did recognize the need for permitting the wound to heal from the bottom, and among the Hopi and several other tribes, thin pieces of bark were used to keep the wound open. While it has been asserted that several tribes used sinew sutures, the question arises as to whether their use represented an aspect of cultural diffusion or of transfer. The Indians were quick to learn from the whites and readily adapted European techniques to native conditions. The use of sutures implies considerable skill, which certainly would have attracted the attention of the seventeenth and eighteenth century observers of Indian life. Their failure to mention the practice is a good indication that, while the technique may have existed among a few tribes, it was not generally known to the Indians.

Although opinions vary as to the effectiveness of Indian treatment of wounds, all evidence indicates that the Indians made rapid recoveries from even serious injuries, and that they were seemingly free from the infections that made wounds so deadly to contemporary Europeans. The custom of treating the wounded either in their own lodges or in special huts built at some distance from the village may well help.

—*Duffy*

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La solution de quelques-uns de ces problèmes exige une connaissance plus approfondie des rapports hôte-parasites, de nouveaux vaccins ou d'autres moyens de défense spécifiques ou non spécifiques. Une aide nous sera aussi apportée par l'amélioration de l'organisation sociale en ce qui concerne la disponibilité de soins médicaux optimum.

RIASSUNTO

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Los agentes antimicrobianos, cuando se conservan en buenas condiciones, han resistido la prueba del tiempo. Su valor real y permanente se hace evidente ya que en muchas de las infecciones comunes se pueden dominar en más del 80% de las veces. Casi todas la infecciones, excepto las causadas por virus son practicamente tratables. Las mayores dificultades se presentan cuando la infección afecta a un sujeto desprovisto de defensas. El abuso de los antibióticos también contribuye a este problema. La falta de la utilización adecuada de los métodos de laboratorio baja la posibilidad de éxito en los enfermos difíciles de tratar. La toxicidad de las drogas tiene también su importancia. La

solución definitiva de muchos de estos problemas se encuentra en un mejor conocimiento de la relación huesped-parásito por medio del empleo de vacunas en otras sustancias de defensa específica o no.

La mejora de la organización social así como el proporcionar cuidados médicos óptimos ha de resolver algunos de los problemas que siguen existiendo.

SUMARIO

Os agentes antimicrobianos tem resistido a proa do tempo. Os resultados e progressos são evidentes e muitas das infecções comuns exceto as virosicas tem sido controladas em 80% do tempo necessario anteriormente. As dificuldades principais são os organismos resistentes e a fraquesa de defesa organica, para a que contribue o abuso dos antibioticos.

A falta de testes laboratoriais adequados reduz o aproveitamento pelo paciente. A solução para esses problemas talves seja encontrada na compreensão no problema parasita hospedeiro, atraves o uso de vacinas ou outras substancias não especificas de defesa organic a. Os outros problemas serão solvidos pela organisação social e os cuidados medicos.

◆

Lewis and Clark mentioned the sprinkling of powdered willow bark on wounds by the Plains Indians. However, there is little evidence to substantiate the thesis that the Indians in general were familiar with sutures. They did recognize the need for permitting the wound to heal from the bottom, and among the Hopi and several other tribes, thin pieces of bark were used to keep the wound open. While it has been asserted that several tribes used sinew sutures, the question arises as to whether their use represented an aspect of cultural diffusion or of transfer. The Indians were quick to learn from the whites and readily adapted European techniques to native conditions. The use of sutures implies considerable skill, which certainly would have attracted the attention of the seventeenth and eighteenth century observers of Indian life. Their failure to mention the practice is a good indication that, while the technique may have existed among a few tribes, it was not generally known to the Indians.

Although opinions vary as to the effectiveness of Indian treatment of wounds, all evidence indicates that the Indians made rapid recoveries from even serious injuries, and that they were seemingly free from the infections that made wounds so deadly to contemporary Europeans. The custom of treating the wounded either in their own lodges or in special huts built at some distance from the village may well help.

—*Duffy*

Clinical Evaluation of Galinex

A New Synthetic Choleretic

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A clinical study of Galinex, a new choleretic, is reported. Galinex promotes bile secretion and increases bilirubin content. Its advantages in improving intravenous cholangiography by means of a contrast medium are discussed, and its effectiveness when administered orally in the presence of the postcholecystectomy syndrome is demonstrated.

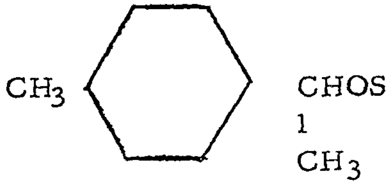
The results of this study point to Galinex as a superior choleretic agent. It appears to have advantages over similar preparations, as it is effective in smaller doses. There were no undesirable side effects in the series of patients studied.

THIS study was carried out to investigate the effect of oral administration of Galinex,[*] a new synthetic choleretic. The evaluation consists of three parts:

1. Bile secretion and bilirubin studies to demonstrate the choleretic properties.
2. An adjunct use of Galinex in combination with a contrast medium for improved roentgen visualization of the gallbladder and common duct.
3. Its clinical application for the treatment of functional disturbances of the biliary tract.

Historical and Chemical Background.—It is known that the natives of the Dutch Indies have for a long time used the juice of a species of curcuma to stimulate hepatic function and to treat chronic diseases of the liver. European investigators prepared several active fractions from rhizome of Curcuma domestica or Temoe Lawak, and one of them, the p-tolymethyl carbinol ester of d-monocamphoric acid, was shown by Robbers[1] to possess choleretic action in dogs. Extensive experimental and clinical studies have been carried out over the years to establish the choleretic action and clinical usefulness of curcuma preparations.[2] Delphant and Meunier[3] in France contributed some interesting observations on the prophenamine salt, and Weiss and Weiss[4] in the United States reported the results of their experimental and clinical study with the diethanolamine salt.

Chemically, Galinex is p-tolymethyl carbinol and has the following structure:



The active ingredient of Galinex does not contain the camphoric acid residue present in other similar preparations. Therapeutically, therefore, in formulating Galinex the possibility of decreased side effects associated with camphoric acid was considered. Also, the carbinol itself, having a molecular weight of 136, was anticipated to be considerably more effective when compared, for instance, with the diethanolamine salt of the ester (*molecu-*

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[*] Supplied by Wallace Laboratories, New Brunswick, New Jersey.

lar weight 423). These assumptions seem to find support in the present clinical study.

Present Study.—1. *Choleretic Properties* (as demonstrated in bile secretion and bilirubin studies): The choleretic properties were shown in (1) total volume of bile secreted over a specific time interval; (2) bilirubin content or concentration of bile collected via T tube drainage after ingestion of (a) Galinex and (b) Decholin, a known choleretic used for comparison, and (3) duodenal drainage in 10 subjects.

Dosage and Administration: Galinex was made available by the Wallace Laboratories in 25 mg. capsules. The patients were given 1 capsule three times per day.

1. The two subjects studied in this category were postoperative cholecystectomy patients with no evidence of hepatic disease or disease of the common duct, the right or left hepatic ducts, the ampulla of Vater, the duodenum, the pancreas or adjacent or distant viscera. Except for diseased gallbladders, these patients were in good health. Liver function tests were carried out preoperatively in each case, including tests for alkaline phosphatase, thymol turbidity, cephalin flocculation and albumin-globulin ratios. Routine T tubes were placed in the common ducts after routine cholecystectomy in order to study the total volume of bile drainage following administration of Galinex and Decholin. Deductions can be made on a relative basis only, as one cannot be sure of the amount of bile lost through the ampulla of Vater into the duodenum. To obtain a more accurate determination, ligation of the common duct in animals would have to be carried out.

In the 2 subjects there was an average increase of 35 per cent in the output of bile in a twenty-four-hour period after administration of Galinex for three days. The minimum increase was 25 per cent; the maximum, 45 per cent. Decholin produced an average increase of 24 per cent in both patients.

2. The bilirubin content of collected samples in the two series was even more marked, as may be seen in the following examples:

TABLE 1.—*Bilirubin Level with Galinex and with Decholin*

Patient		*Bilirubin Content per Hundred Cc.*
1. M. M.	After Galinex	42 mg.
	After Decholin	18.6 mg.
2. H. P.	After Galinex	35 mg.
	After Decholin	6.9 mg.

As demonstrated, Galinex produced bilirubin from "2.3 times" to "5 times" the amount produced by Decholin. (An attempt to compare the roentgen opacity of standard thickness samples of bile in Petrie dishes after intravenous injection of Cholografin was inconclusive.)

3. Duodenal tube drainage was carried out in 10 normal adults who were physically fit and served, therefore, as their own controls. In each instance it was noted that (a) there was less sediment after a four-day course of Galinex; (b) the sediment almost disappeared, and (c) a distinct color change resulted, from yellow to deep green, with the bile appearing grossly less viscid. For further substantiation of this observation, samples from the T tube patients aforementioned were studied, and the results compared favorably with those of the Reyfus tube studies. An attempt was made, with the aid of the fluoroscope, to place the tip of the tube just below the ampulla of Vater, or at least in the second part of the duodenum. The results in the group of T tube patients were quite similar to those in the group with the duodenal drainage (Reyfus) tube. From this study it was concluded that Galinex does increase choloresis.

Effect of Galinex on Visualization by Contrast Medium. — Improved visualization of the gallbladder and biliary duct resulted when Galinex was used in conjunction with a contrast medium, Cholografin. This radiopaque substance, it was assumed,* has its own threshold as regards excretion by the hepatic cell, i.e., excretion of Cholografin in terms of volume per unit of time is closely related to the status of the liver cell. The slightest disease of the cell will affect the range of excretion. It was postulated, therefore, that an increase in bile flow would decrease the density of the dye, because of the dilution factor. Furthermore, the success of Cholografin visualization depends considerably on dehydration of the patient prior to examination; therefore, the choleretic effect of Galinex should decrease the density of Cholografin rather than increase it. Surprisingly, the reverse was the case.

Effect of Galinex on Hepatic Cell.—To study the stimulating effect of Galinex on the excretory function of the hepatic cell, the following investigation was carried out: Forty adults in good health and without any previous history of hepatic or cholecystic disease were selected at random. The average weight was 170 pounds (77.1 Kg.) in the male group and 135 pounds (61.2 Kg.) in the female group. The patients served as their own controls.

Procedure and Dosage: The preparation of the 40 subjects consisted of routine catharsis on the evening before the day of testing. Intake of liquids or solids was prohibited for 12 hours prior to the beginning of the study. Great care was taken in obtaining detailed histories and carrying out physical examinations to exclude all possibility of hepatic biliary disease. On the first day of the study, 40 cc. of Cholografin was injected intravenously over a period of ten minutes after routine scout films of the abdomen had been taken. Roentgenograms of the abdomen were re-

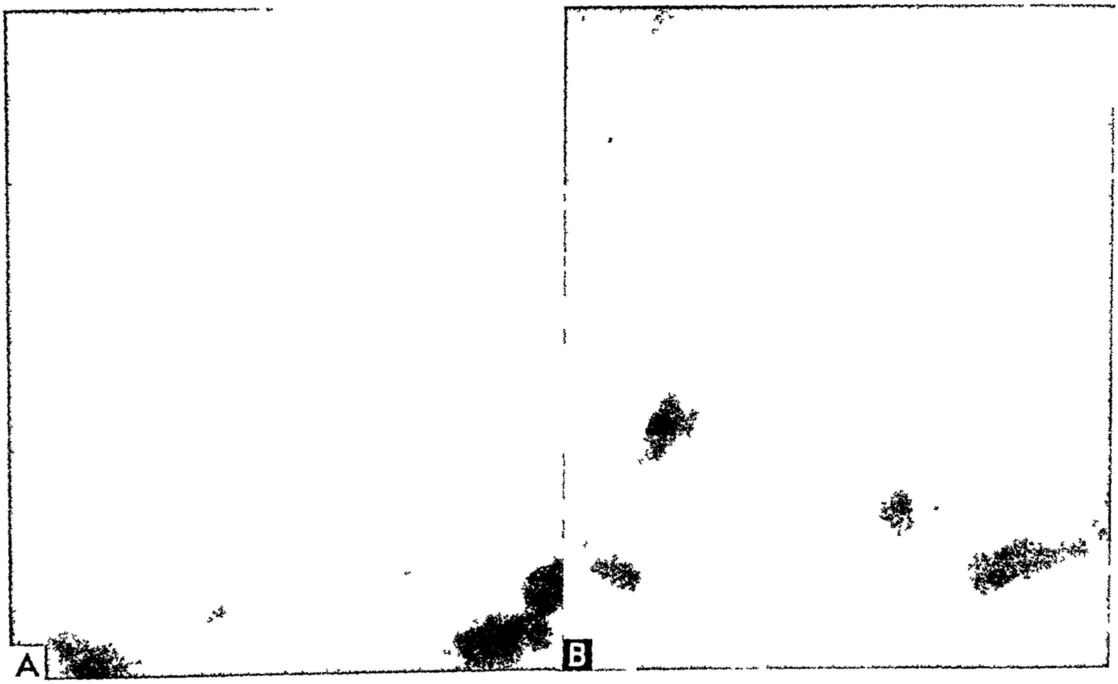

Fig 1.—*A*, visualization with Cholografin alone; *B*, visualization with Cholografin and Galinex.

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*Communication from Dr Lund of E R Squibb & Sons, New York

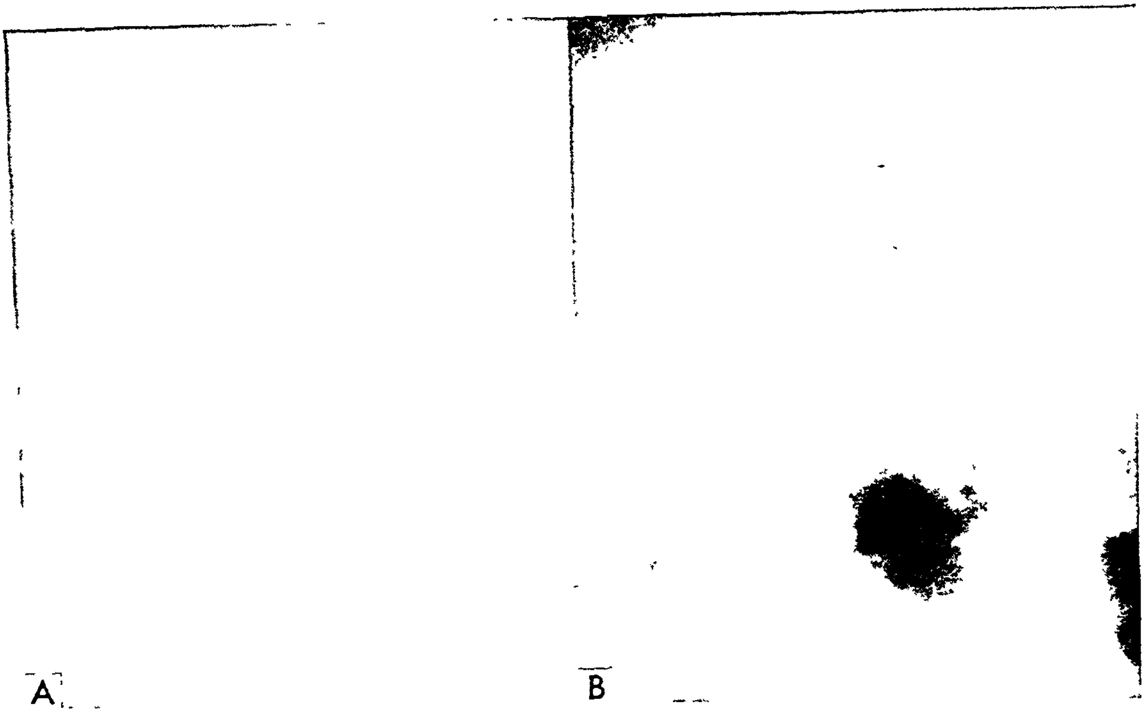

Fig. 2.—*A*, visualization with Cholografin alone; *B*, visualization with Cholografin and Galinex.

peated at twenty-, forty- and sixty-minute intervals to include the gallbladder and the extrahepatic biliary system.

The subjects were then started on a course of Galinex consisting of one 25 mg. capsule by mouth three times daily for three days. On the morning of the fourth day, roentgenograms were taken with Cholografin. A two-day respite followed, to eliminate a carry-over effect of Galinex. The entire procedure was then repeated, with Decholin substituted for Galinex and in doses of 100 mg. three times daily by mouth for three days.

From Table 2 it appears that Galinex is an excellent adjunct to Cholografin in improving roentgen visualization of the extrahepatic system, since the efficacy of the contrast medium was enhanced in 90 per cent of the subjects studied. It was almost universally superior to sodium dehydrocholate (Decholin). No increase in dosage of either Galinex or Decholin was made in order to maintain uniformity of end results. In no instance did Galinex seem to dilute the concentration of the secreted Cholografin, and there was no evidence of a large, congested gallbladder after the ingestion of Galinex. There were no untoward reactions to Cholografin alone or combined with either Galinex or Decholin in this series.

The photographs here presented are

TABLE 2.—*Comparative Roentgen Visualization*

	Cholografin Alone	*Cholografin Combined With Galinex*	*Cholografin Combined With Decholin*
Number of Patients studied	45	40	40
Results	30 ++ 10 ±	36 ++++ 3 ++ 1 ±	25 +++ 10 ++ 4 + 1 ±

++++ Excellent visualization (dense shadows)
+++ Fair visualization
++ Poor visualization
+ Very poor visualization
± Equivocal (no visualization)

typical roentgenograms. They demonstrate the improved visualization of the extrahepatic system after ingestion of Galinex. Although sodium dehydrocholate (Decholin) also produced better visualization than did Cholografin alone, the patients prepared with Galinex gave superior results.

Therapeutic Application. — The third phase of this study deals with the effectiveness of Galinex as an adjunct in the treatment of pathologic conditions of the liver and the extrahepatic system (Table 3).

TABLE 3.—*Galinex in Treatment of Hepatic and Biliary Disease*

Diagnosis	*Patients*
Cholangitis	15
Common duct, debris or stone	8
Repair of common bile duct	2
External biliary fistula	1
Severely jaundiced patients subjected to common duct exploration:	
(a) Common duct stones	7
(b) Inoperable carcinoma of the head of the pancreas	3

Dosage and Administration: In the group of 15 patients with cholangitis the results were excellent, in that the clinical course was conspicuously shortened. The 8 patients with small common duct stones or debris in the common duct had at some prior date undergone gallbladder operations and choledocholithotomy. In addition to Galinex they were given ½ ounce of magnesium sulfate before breakfast and 1 ounce of pure cream before noon and evening meals and at bedtime.

The 2 patients who had undergone secondary repair of injured common bile ducts had complained of pain in the right upper abdominal quadrant, chills, fever and transient nausea. After two weeks of Galinex therapy, both responded well.

The problem of postoperative external biliary fistula can be vexing, not only to the surgeon but also to the patient. Spontaneous closure of a fistulous tract fourteen days after the initiation of treatment with Galinex was observed in 1 patient.

In the jaundiced group (patients with stones in the common duct) who had undergone surgical treatment, there was rapid diminution of icterus after treatment with Galinex. The jaundice subsided rapidly also in the inoperable group after cholecystojejunostomy.

ZUSAMMENFASSUNG

Es wird über die klinische Untersuchung eines neuen gallentreibenden Mittels, Galinex, berichtet. Das Präparat regt die Gallensekretion an und erhöht den Bilirubingehalt. Seine Vorzüge in der Verbessrung der intravenösen Cholangiographie werden erörtert, und seine Wirksamkeit bei oraler Anwendung in Fällen von Postcholezystectomie-Syndrom wird dargestellt.

Die Ergebnisse dieser Untersuchung lassen Galinex als ein überlegenes gallentreibendes Mittel erscheinen. Es hat offenbar Vorzüge gegenüber ähnlichen Präparaten, da es in kleineren Dosen als diese wirksam ist.

Bei der untersuchten Krankenserie wurden keine unerwünschten Nebenerscheinungen beobachtet.

RÉSUMÉ

Une étude clinique sur le Galinex, nouveau cholérétique, est décrite. Le Galinex favorise la sécrétion de bile et augmente la proportion de bilirubine. Ses avantages (amélioration de la cholangiographie intraveineuse) sont discutés, et son efficacité en administration orale en cas de syndrome post-cholécystectomique est démontrée.

Les résultats de cette étude permettent de considérer le Galinex comme un agent cholérétique supérieur. Il semble présen-

ter des avantages sur les autres préparations similaires car il est efficace à des doses plus faibles.

Aucune réaction secondaire indésirable n'a été constatée dans la série de cas étudiés.

RESUMEN

Se trata de un estoduo clínico sobre el Galinex, un nuevo colerético clínico que determina secreción biliar y aumento del contenido de colesterina. Una de sus ventajas es la de mejorar las colangiografías intravenosas al mejorar la eliminación biliar y otra que también queda demostrada, es el efecto beneficioso cuando empleado por vía oral en el síndrome postcolecistectomía.

Este trabajo concluye en que el Galinex es un agente colerético excelente. Parece que tnene ventajas sobre preparados similares y requiere menores dosis.

En los casos estudiados no se han observado efectos secundarios desagrables.

SUMARIO

Apresenta um estudo clinico do novo coleretico o Galinex. Promove a secreção da bile e aumenta o conteudo da bilirubina. Melhora a colangiografia e quando administrado oralmente nas sindrome pos-colecistectomia é eficaz. Os resultados deste estudo demonstram a superioridade do Galinex como agente coleretico, su perior aos similares com mesmo efeito em menores doses.

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Brave men are all vertebrates: they have their softness on the surface and their toughness in the middle.

Of a sane man there is only one safe definition: he is a man who can have tragedy in his heart and comedy in his head.

The artistic temperament is a disease that afflicts amateurs.

—*Chesterton*

Cardiovascular Surgery

Hemangiomatosis of the Lower Extremity and Large Bowel

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CUTANEOUS vascular malformations suggest vascular anomalies elsewhere in the body. We present a case of severe secondary anemia of twenty years' duration, diagnosed by inference as having a bleeding rectal hemangioma because of a massive venous hemangioma of the left leg. The patient was completely rehabilitated after an abdominoperineal resection and radical resection of the extremity vascular tumor.

A case of varicose hemangiomatosis of the lower extremity and large bowel is reported. The patient had been committed to a life of invalidism because of secondary anemia from rectal bleeding, ascribed to a blood dyscrasia. For nine years he had been working irregularly, with the help of five to six blood transfusions annually. Knowledge of the common association of cutaneous and visceral vascular malformation led to a correct diagnosis and to definitive surgical therapy that completely rehabilitated the patient.

REPORT OF A CASE

M. N., a 40-year-old white plumber, was first seen on Feb. 27, 1957. He complained of a blood tumor of the left leg that had been present for twenty years or more and was becoming progressively more uncomfortable. Six months earlier a painful hard mass of thrombosed veins had developed in the subcutaneous tissues below the external malleolus *of the affected leg, and the patient had begun* to take narcotics to enable him to work and sleep.

Over a period of years several attempts had been made to stop the progression of the vascular tumor. Radium had been applied to the same tumor some twenty years earlier. A limited vein stripping operation had been performed in 1936 and multiple vein ligations in 1940.

The patient seemed eccentric and resisted questioning. A routine physical examination, however, including laboratory work, revealed marked secondary anemia (hematin 6, red blood cells 3,340,000 per cubic millimeter). This led to further questioning and the following additional history:

In 1934 the patient was hospitalized for pain in the lower part of the abdomen, especially the right lower quadrant. Abdominal exploration was performed and the appendix removed, with a diagnosis of subacute appendicitis. The surgeon mentioned in his operative note that thrombosed veins were observed in the pelvis and in the anterior wall of the rectum. He presumed that these were related to large varicosities observed in the

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left leg. Severe secondary anemia was present during this hospitalization. Medical treatment was instituted. The cause of the anemia was not determined.

In 1936 the patient was hospitalized for surgical treatment of the varicosities of the left leg. Again he was observed to be anemic, and operation was deferred until a series of tests had been performed to ascertain the cause of the anemia. This cause was not discovered, and, after several transfusions, operation was performed (limited strippings of large dilated veins). The patient went into shock shortly after the operation was begun, and it was discontinued without being completed.

In 1940 additional surgical treatment was given for the vascular tumor of the leg (multiple vein ligations).

In 1946 the patient was hospitalized because of severe anemia. The presenting complaints were rapid fatigue, drowsiness, and pain in the left leg. A history of occasional rectal bleeding at stool was first obtained during this admission. The following studies were made in an effort to diagnose the cause of the secondary anemia: gastric analysis, a gastrointestinal series, barium enema, liver biopsy, bone marrow biopsy and the usual studies for blood dyscrasia. Sigmoidoscopic study was reported as showing no unusual features, and no rectal bleeding was observed during this procedure. Large hemorrhoids were observed. The bone marrow studies were interpreted as showing possible aplastic anemia. The hemorrhoids were considered a possible contributing factor in the anemia, and a hemorrhoidectomy was performed.

In 1949 the patient was hospitalized for gross rectal bleeding and secondary anemia. After transfusions, a second hemorrhoidectomy was performed by a different surgeon. The surgeon's note stated that large tortuous venous channels were encountered high in the rectum. Their situation and vascularity did not permit ligation and excision. The operation consisted of inserting continuous over-and-over sutures about the masses in the hope of producing thrombosis. The operation was accompanied by considerable excess bleeding.

During the period from 1949 to 1957 the patient had been given six to eight transfusions per year on an outpatient basis. Some rectal bleeding was observed from time to time, but aplastic anemia was held to be the principal diagnosis. The symptoms included syncope, palpitation and periods of dyspnea on exertion. As these symptoms became aggravated, additional transfusions were given.

The patient was admitted to our service at Norfolk General Hospital on March 15, 1957. He had been given a transfusion on an outpatient basis several days earlier, under the direction of his family physician.

Physical Examination.—Examination revealed the patient to be stocky, well developed and well nourished. In spite of a florid complexion, the mucous membranes were quite pale. The left lower extremity was considerably larger than the opposite one. The enlargement was due to extensive varicose hemangiomatosis encircling the entire extremity and buttocks (Fig. 1).

The vascular tumor consisted of enormous varicose masses extending from the ankle along the lateral aspect of the leg and the lateral and posterior aspects of the thigh to the crest of the ileum. Behind and below the external malleolus there was a hard, tender mass that appeared to be due to thrombosed veins. Other areas of thrombosed veins were observed in the midthigh. In the buttocks the varicosities seemed to communicate with the deep vein of the gluteal fold. The varicosities seemed somewhat more deeply subcutaneous than ordinary varicosities and were completely patternless. No varicosities were observed along the mesial aspect of the leg, and the main line of the great saphenous vein could not be detected to be significantly dilated or to be part of the vascular tumor. No thrill could be felt over the tumor, and no bruit was heard. With the leg elevated vertically there was little or no diminution in the size of the mass, and this was interpreted as suggesting arterial communications. Blood aspirated from the dilated veins, however, was not unusually bright. The leg was neither warmer nor longer than the opposite leg. The oxygen content of blood from the mass was not determined. The right leg was entirely normal. Oscillometric readings were as follows:

	Right	*Left*
Above ankle	1½	2
Below knee	4	5

The pulse rate was 68. The blood pressure in millimeters of mercury was 140 systolic and 76 diastolic. The heart presented a soft apical murmur. The sounds were otherwise normal, and the the heart was not enlarged. The physical observations, except for tumor of the left extremity and the obvious evidences of secondary anemia, were entirely normal. No vascular lesions were observed in the perianal skin during rectal examination.

On sigmoidoscopic study the entire mucous membrane of the rectum to the rectosigmoid juncture presented a bloody surface. The blood seemed to be coming from numerous oozing areas. The mucous membrane appeared mottled and hemorrhagic. No varicosities and no discrete vascular tumors were seen. No hemorrhoids were present.

A roentgenogram of the chest was normal. An air contrast barium enema was reported as indicating "narrowing of the rectosigmoid area, which does not appear neoplastic. It most likely represents an inflammatory process and the possibilities include lymphopathia, diverticulitis, amebiasis. It is conceivable that there is hemangiomatosis involving this segment of the bowel."

The laboratory data on admission were as follows: hemoglobin, 7.2 Gm.; hematocrit reading, 31 mm. per hour; red blood cells 3,900,000 per cubic millimeter; white blood cells, 5,950 per cubic millimeter; platelets, 240,000; bleeding time 2 minutes and 30 seconds; coagulation time, six minutes; prothrombin time, 16/30, 62 per cent; icteric index, 10; thymol turbidity, 4; and cephalin flocculation, normal. The Mazzini test gave negative results. There was occult blood in the stool (4 plus). A urinalysis revealed no abnormality.

The cutaneous vascular anomaly and the history of rectal bleeding suggested that an obscure intestinal hemangioma was present. A preoperative diagnosis was made of hemangiomatosis of the left leg and of the large bowel and secondary anemia from the latter lesion. Preoperative preparation included administration of blood transfusions, sulfasuxidine, neomycin and mephyton.

Operation was performed on March 20, through a left paramedian rectus-splitting incision. It was hoped that a sphincter-preserving rectal resection could be done. Pronounced induration of the perirectal tissues and extension of the vascular tumor into the anal area were encountered. The sphincter-preserving procedure was abandoned and the operation changed to an abdominoperineal resection of the Miles type with a single bowel colostomy.

When the abdomen was opened, an extensive and diffuse vascular tumor was seen in the wall of the rectum and rectosigmoid. It consisted essentially of large tortuous subserous veins, which caused the wall of the bowel to present a blackish appearance. The lesion practically encircled the bowel. The lumen of the rectosigmoid was narrowed, and the bowel wall was thickened from the anus to this area. In addition to the intestinal lesion there was a translucent compressible vascular lesion in the right side of the pelvis, which was interpreted as a lymphangioma. The colon just above the rectosigmoid area was entirely normal. The spleen and liver were normal.

The operative technic was essentially that of the standard Miles operation and will not be repeated here. Because of the vascularity of the tissues there was excessive loss of blood, and the patient was given several transfusions during the procedure. He withstood the operation and left the operating room in good condition.

The postoperative course was normal. The patient rapidly regained his strength and weight, and the blood picture remained normal. The patient soon returned to work.

Pathologic Report: The specimen consisted of two pieces, the first consisting of the rectum and the anus, and the second of the sigmoid colon. The rectum measured 12 cm. in length. Attached to it were the anal canal and 3 cm. of perianal skin. The rectal mucosa showed numerous large, dilated varicose vessels. The anal canal was involved by similar varicose vessels. These vessels appeared to run mostly in the submucosa, but some were seen on the deep surface.

The piece of sigmoid, separately received, measured 19 cm. On its serosal surface were a few dilated varicosities similar to those previously described. These were seen most clearly on the taenia. The mucosal surface showed considerable edema. The submucosa was widened and filled with dilated varicose vessels.

At the lower end of the rectal specimen the anal sphincter was visible. Dilated vessels appeared to be running in close proximity to the superficial portions of the sphincter, but they did not appear to involve the muscle tissue itself. At the upper end of the sigmoid specimen there appeared to be at least 4 cm. of normal bowel between the upper end of the lesion and the upper line of resection.

Microscopic examination of both specimens showed that the vascular lesion involved principally the submucosa of the bowel and, to a lesser extent, the subserous layers, with minimal involvement of the muscularis. The lesion was composed of numerous, greatly dilated thin-walled veins engorged with blood. These were lined with well-differentiated endothelium. There was no evidence of true neoplasia. The overall appearance of the lesion suggested a congenital vascular malformation.

Diagnosis.—The diagnosis was diffuse venous hemangioma of the rectum.

Treatment (First Stage).—The massive varicose hemangioma of the leg was resected in two stages. The first stage was performed on June 28, approximately three months after the resection of the bowel.

Operative Observations: At operation an enormous blood vessel mass extended from the gluteal region to the ankle. The mass consisted of dilated veins and a few small arterial connections. There was one finger-sized perforator vein in the midthigh, presumably joining the angiomatous mass to the deep veins.

Operative Procedure: A long incision was made from the inferior gluteal fold of the buttocks to the popliteal area of the leg, with the patient lying on the stomach. The incision was further increased by a Y-shaped extension at either end. Flaps were dissected back to the lateral extensions of the enormous tumor. The dissection was then deepened onto the fascia of the leg and the deep fascia removed, including all of the overlying fat and the enclosed angiomatous mass. During this dissection many large veins and small arterioles were clamped, ligated and divided. One large perforator vein in the midthigh was similarly clamped, divided and ligated, subfascially. In spite of the enormous dissection of flaps, after the procedure the flaps seemed reasonably viable. The wound was closed with simple interrupted silk sutures, and a Penrose drain was placed in the lower angle of the incision. There was considerable loss of blood, covered by transfusions. The patient left the operating room in good condition.

Pathologist's Report.—Gross: The specimen was a mass of subcutaneous tissue with underlying fascia from the thigh measuring 32 by 17 by 3 cm. Cut surfaces revealed, in the subcutaneous tissue, large vascular channels surrounded by blood-containing tributaries irregularly and haphazardly distributed through the entire subcutaneous fat.

Microscopic: Section through the subcutaneous tissue resected from the left thigh revealed large veins with sclerosed hyalinized walls, as well as numerous small vascular channels of varying size, diffusely distributed throughout the section. Some of these vessels were empty; others contained clotted blood.

Fig. 1.—Varicose hemangiomatosis of leg. Similar hemangioma of the rectum and sigmoid was presented.

Diagnosis: Varicose veins; diffuse hemangiomatosis of left leg.

Treatment (Second Stage).—On July 5 resection of the devitalized and necrotic portion of the previous skin flaps on the thigh was done. This denuded area was resurfaced with skin grafts the size of postage stamps. High ligation and removal by the stripping technic of the left long saphenous vein and its tributaries followed; then the varicose hemangioma of the posterior aspect of the lower part of the leg was resected, with high ligation and resection of the short saphenous vein and its tributaries; finally, a mass of thrombosed veins below the left external malleolus was resected.

the common association of cutaneous and visceral vascular malformation finally led to definitive surgical therapy that completely rehabilitated the patient.

RÉSUMÉ

Un cas d'hémangiomatos de l'extrémité inférieure du gros intestin est décrit. Le malade était condamné à une vie d'invalide, en raison d'hémorragies rectales provoquant une anémie secondaire (dyscrasie sanguine). Pendant 9 ans il avait travaillé de façon irrégulière, en subissant cinq ou six transfusions sanguines par an. Grâce à la connaissance de l'association de lésions cutanées et vasculaires un diagnostic correct a pu être posé, et un traitement chirurgical a permis au malade de se rétablir complètement.

RESUMEN

Se da cuenta de un caso de hemangiomatosis de la extremidad inferior y del intestino grueso. El enfermo había sido considerado como un invalido definitivo a causa de anemia secundaria por hemorragia rectal achacada a una discrasia sanguínea. Durante nueve años había vivido trabajando irregularmente con la ayuda de cinco o seis transfusiones anuales. El conocimiento de la asociación frecuente de la malformación vascular cutánea y visceral conduja au un diagnóstico correcto y a la terapéutica quirúrgica definitiva que reabilitó por completo al enfermo.

ZUSAMMENFASSUNG

Es wird über einen Fall von varikösen Hämangiomen der unteren Gliedmasse und des Dickdarms berichtet. Infolge von Mastdarmblutungen mit sekundärer Blutarmut, die einer fehlerhalften Blutzusammensetzung zugeschrieben wurde, war der Patient zu einem Leben der Invalidität verurteilt. Neun Jahre lang konnte er nur unregelmässig und mit Hilfe von fünf bis sechs Bluttransfusionen im Jahr arbeiten. Nachdem erkannt wurde, dass Gefässmissbildungen der Haut und innerer Organe oft gemeinsam bestehen, wurde eine richtige Diagnose gestellt und eine genau festgelegte chirurgische Behandlung eingeleitet, die zur völligen Wiederherstellung des Kranken führte.

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Endometriosis of the Urinary Tract: A Review of the Literature and a Report of Four Cases of Vesical Endometriosis

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Endometriosis of the urinary tract is rare. In its vesical form it occurs most frequently in women between the ages of 20 and 40. There is no unanimous opinion as to its pathogenesis. Cystoscopic study is the most reliable diagnostic aid, and treatment should be individualized on the bases of age, marital status, desire for pregnancy, severity of symptoms and the presence or absence of associated endometrial or other pelvic disease. The authors review the literature and report four cases of their own.

ENDOMETRIOSIS is a widespread disease whose rapid growth and unusual manner of dissemination is responsible for many bizarre clinical and pathologic changes. Since the endometrial lesions may occur anywhere in the female genital tract and manifest a striking tendency to spread to any site or organ within the abdomen, occasionally outside the abdomen and even to involvement of the extremities or the lungs and other distant organs, one can readily appreciate the many perplexing problems of diagnosis and treatment they may present to the general practitioner, gynecologist, surgeon and urologist.

The purpose of this paper is three fold: (1) to report 4 personal cases of endometriosis of the bladder; (2) to discuss briefly the incidence, pathogenesis, pathologic picture, symptoms, diagnosis and treatment of vesical endometriosis, and (3) to tabulate the cases of endometriosis of the various organs of the urinary tract.

Definition.—In the past fifty years the exact meaning of the term "endometriosis" has undergone a decided change. In the early literature two distinct types of endometriosis were described, internal and external. The internal type included diffuse glandular permeation of the uterine muscle and has been designated as adenomyomatosis (Cullen), adenomyosis (Franke), adenomyometritis (Meyers), adenome endometriode (Pick), uterine fibroids containing endometrial tissue and designated as adenomyomas (Von Recklinhausen), adenomyomas con-

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taining uterine epithelium (Cullen), fibroadenose seroepitheliale (Lauche), endometriomyoma (Blair Bell), etc. The external type included misplaced endometrial tissue discovered outside the uterus and described as chocolate cysts of the ovary (Sampson), ectopic, heterotopic or aberrant endometriosis, endometrioma, etc.

It soon became apparent that there was no clinical similarity between the internal and external types, and these terms were abandoned in favor of the more specific terms just enumerated. In recent years practically all contributors to the subject have employed the term "endometriosis" to designate any growth of endometrial gland tissue outside its normal habitat, the uterus. The studies of Sampson, Russell and others, clearly demonstrated that chocolate cysts of the ovary represent a specific form of external endometriosis in the ovary containing uterine endometrium, but on perforation the cyst contents rarely contain endometrial glands. Consequently the terms "chocolate cyst of the ovary" and "endometriosis" should not be used synonymously or interchangeably.

The occurrence and location of endometrial lesions outside the uterus is most often described under the generic term of endometriosis or, by the more etymologically-minded physicians, as ectopic, heterotopic or aberrant endometriosis. The most common extrauterine sites are the ovaries, various uterine ligaments, rectovaginal and vesicovaginal septums, pelvic peritoneum, cervix, labia, vagina and, less frequently, the large and small intestines, bladder, ureters, laparotomy scars, umbilicus and skin.

Incidence.—Endometriosis is one of the most common diseases encountered in gynecologic practice. Many women show clinical signs and symptoms of endometriosis, but relatively few require definitive treatment. Small endometrial lesions are frequently observed at laparotomy performed for other pelvic diseases. Endometriosis of the urinary tract appears to be a relatively rare clinical and pathologic entity.

TABLE 1.—*Incidence of Vesical Endometriosis in Large Series of Cases of all Types of Endometriosis*

Year	*Author*	*Total Cases of all Types of Endometriosis*	*Vesical Endometriosis*
1925	Polster	1,000	5
1929	Smith	159	2
1930	Keene and Kimbrough	118	2
1933	Seitz	65	3
1935	Masson	576	2
1942	Hayden	569	3
1942	Holmes	145	2
1951	Counsellor and Crenshaw	1,342	33
1952	Hepp	271	4
1953	Higgins and Stearns	530	3
1956	Crone-Munzebrock	1,000+	4
1960	Abeshouse	332	4
	Total	*6,107*	*67 (1.1%)*

The first case of vesical endometriosis was reported by Judd in 1921. Ottaw (1929) collected 16 cases, Hendriksen (1936) 30 cases, Moore and his associates (1943) 46 cases and Kretschmer (1945) 64 cases. We have collected 7 cases published prior to 1945 that were not included in Kretschmer's report and 56 cases published subsequent to Kretschmer's report, and have added 4 personal cases to make a grand total of 127. We were able to find reports of only 6 cases of renal and pararenal, 15 ureteral, and 3 urethral endometriosis.*

It is very likely that the incidence of

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*These cases are listed chronologically in the Bibliography.

endometriosis of the urinary tract is far greater than these figures indicate. This is substantiated by the data in Table 1.

Age Incidence: Vesical endometriosis may occur in any woman between the menarche and the menopause. In the majority of cases it occurs between the ages of 25 and 40, with the greatest number in the period between 30 and 35. In the present series of 56 cases the youngest patient was 26 years old (Ockuly and Helwig, Lax, Ajamil, and Arrighi) and the oldest 50 (Trabucco and Cartelli). In Kretschmer's series the youngest was 18 years and the oldest 48. The age distribution in our own series is indicated in Table 2.

Endometriosis appears to be a disease of modern times. It is estimated that between 10 and 20 per cent of all women between puberty and the menopause have pelvic endometriosis at one time or another. This disease has a much higher incidence than has carcinoma of the female genital tract. These women are victims of the stress and strain of the changing socio-economic conditions, as has been aptly stated by Meigs (1938), who pointed out that endometriosis is more commonly observed in private white patients than in ward or service patients. He attributed this disparity in incidence to the fact that in the former group, which includes career women, intellectuals and "socialites," who are desirous of maintaining their independent status, marry at a much later date, practice contraception and make a concerted effort to avoid becoming pregnant, and in whom the prolonged menstrual life without interruption by pregnancy appears to favor the development of endometriosis. In the latter group, in whom early marriage and repeated pregnancies are more prone to occur, interruption of the cyclic menstrual changes, with its suppressive ovarian hormonal activity, may exert a beneficial action on existing endometrial lesions and a deterrent or preventive action against the development of endometrial lesions.

Pathogenesis.—Numerous theories have been proposed to explain the origin and spread of ectopic endometriosis. Those interested in this phase of the subject are referred to the excellent reviews presented by Henriksen (1935), Ranney (1948) and Javert (1949). The most commonly accepted theories are here listed, and brief mention is made of the more pertinent ones involved in the pathogenesis of endometriosis of the urinary organs.

Theories of the Pathogenesis of Ectopic Endometriosis: 1. Embryonic:
  a. Wolffian duct remains (Von Recklinghausen, 1896)
  b. Mullerian duct remains (Cullen, 1896; Rossman, 1897)
2. Metaplastic:
  a. Peritoneal-serosal changes (Ivanoff, 1898)
  b. Vesical epithelial changes (Myers, 1903 and 1919; Novak, 1926 and 1931)
3. Migratory :
  a. Invasion or direct extension into uterine wall (Cullen, 1897)
  b. Implantation by way of transtubal transportation of menstrual blood (Sampson, 1921)
  c. Lymphatic metastases (Sampson, 1922; Halban, 1924)

TABLE 2.—*Age Distribution in 56 Collected Cases of Vesical Endometriosis*

Years	*Cases*
25 to 29	13
30 to 34	18
35 to 39	14
40 to 44	8
45 to 49	2
50 to 55	1
Total	56

d. Hematogenous metastases (Sampson, 1924)
e. Traumatic displacement and implantation of endometrial tissue at time of operation

The multiplicity of theories attests to the controversial nature of the question and further indicates that no single theory suffices to explain the origin and mode of spread of all the different types of ectopic endometriosis. There is considerable histopathologic and experimental evidence to substantiate the fact that in the vast majority of cases endometriosis is best explained by the migratory theory, which assumes that the endometrial tissue elements originate in the uterine mucosa and reach an ectopic position by (a) direct invasion, (b) implantation or (c) metastasis. For example, the growth of endometrial tissue on the surface of the ovary, pelvic peritoneum, intestine and bladder is more likely to be caused by either (a) implantation resulting from the retrograde menstrual flow through the fallopian tube or (b) spillage of endometrial fragments from the uterine cavity during a gynecologic or abdominal operation. In exceptional cases the endometrial cells are undoubtedly transported by the blood and/or lymph streams to the lungs, arms, thighs, umbilicus, labia, etc.

Ureteral endometriosis is usually the result of direct extension or implantation of endometrial elements from an adjacent focus of endometriosis within the pelvis. In the rare case of renal endometriosis, the origin and growth of the endometrium-like tissue is not so readily explained, but it appears more probable that it is due to metaplasia of renal epithelial elements or indigenous fibroblastic elements (Maslow, Blum and Fruhling) rather than to inclusion of early mullerian cells in the metanephros (Marshall).

Some of the early authors have attempted to classify vesical endometriosis as primary or secondary, the primary type including those forms in which there is no demonstrable continuity or spread from the uterus, tubes or ovaries and no antecedent history of surgical trauma. This classification failed to gain wide recognition, as it was based too often on the individual author's interpretation of unproved etiologic factors and not on positive pathologic observations. It would appear that all vesical endometriosis must be regarded as secondary, in the sense that it is composed of ectopic endometrial tissue even though the mechanism involved is not always clear. Furthermore, it is apparent that differentiation between a primary and a secondary form is of relatively little importance, as the two give rise to the same symptoms and require the same treatment.

Pathologic Picture. — The pathologic data in cases of vesical endometriosis may vary considerably, as they depend upon the mode of spread, the duration of the disease and the cyclic changes induced by ovarian hormonal activity. In the early stages, invasion of the bladder by endometrial tissue may be confined to the serosa, and, if the condition is unrecognized or untreated, invasion of the muscularis, submucosa and mucosa may ensue.

The endometrial lesion is usually single but may be multiple, varying in size from a small discrete plaque or excresence (1 to 5 mm. in diameter) to a large cystic mass (4 to 8 cm in diameter). On gross inspection, the surface of both the small and the large tumor is irregular and is bluish grey or bluish black, owing to the presence of small cysts (1 to 2 mm. in diameter) that may protrude through the external and, less frequently, the internal surface of the tumor.

Histologic examination reveals large rounded or angular endometrial glandular structures scattered throughout the thickness of the bladder wall, embedded in a highly cellular and vascular stroma contiguous with the surrounding muscle bundles. The glands are composed of low or high columnar epithelium, and the cilia of the epithelial cells are frequently discernible. The glands may be distended with blood or necrotic material and reflect the various phases of the menstrual cycle in the same manner as does normally situated endometrium. The dark-staining nuclei of the cells are arranged in a syncytial layer, with their long axes parallel to the basement membrane. The different layers of the bladder in the region of the tumor may exhibit injection or hemorrhage. Moderate to severe congestion, hemorrhagic extravasation and edema may be present. Inflammatory infiltration, chiefly of lymphocytes and plasma cells, may be observed near the mucosal surface of the tumor.

The tendency of aberrant endometrial tissue to manifest an unusual "growth urge" in a manner similar to that of carcinoma has been recognized for many years. Malignant degenerative changes are rarely encountered but, when present, reveal the typical changes of adenocarcinoma of endometrial origin as described by Trabucco and Cartelli and by Yoshimura and Ito. The occurrence of an independent carcinoma and endometrioma in the same bladder is rare but has been reported by Heaney. Papillary epidermoid tumors of the bladder may occur independently of the endometrioma, as in the case reported by Ockuly.

When the endometrial lesion in the bladder remains undiagnosed and untreated or the patient is subjected to repeated cystoscopic examination over a period of months, the lesion will be observed to become larger, more invasive and more hemorrhagic and to exhibit more pronounced cystic changes, often with ulcerative or necrotic changes superimposed. The rapid growth of the tumor results in increasing severity of disabling symptoms and a gradual diminution in the capacity of the bladder.

The urologist, gynecologist and abdominal surgeon should always bear in mind that endometriosis of the bladder usually occurs alone but may coexist with, or be directly connected with, endometriosis of the pelvic organs or the pelvic peritoneum.

Clinical Features.—The symptoms of vesical endometriosis vary and are directly influenced by the size and location of the lesion and the cyclic changes induced by ovarian hormonal activity. The most common and almost constant symptom is vesical discomfort, which is described either as a sense of pressure, heaviness, cramp or pain in the region of the bladder. This symptom was present in 44 of 56 cases (78 per cent) reviewed by ourselves. It was most frequently noted in the suprapubic area (38 cases), less frequently in the vesicovaginal area (6 cases) and occasionally in the lumbar, perineal or sciatic area (1 each, respectively). In most cases the pressure or pain was relieved by voiding, and in many the discomfort was more or less constant. In rare cases, pain on coitus may be a complaint. Renal pain was reported in 8 cases as a result of obstruction of one ureter by the vesical lesion.

The next most common symptoms were urinary disturbances, i.e., urgency, burning and frequency of urination, dysuria, tenesmus, etc. These symptoms were noted in 40 of the 46 cases studied by Moore and his co-workers, and in 42 of 56 cases (71 per cent) reviewed by ourselves. Stress incontinence was present in 2 cases. Contrary to general expectation, gross hematuria is less frequently observed, being present in only 13 of 46 cases (Moore and others) and in only 14 of 56 cases (25 per cent) of our own series. In 3 additional cases in the latter series the hematuria was microscopic. Pyuria was reported in only 3 cases.

The important consideration in appraisal of the bladder symptoms is their cyclic character. The bladder pain and urinary disturbances may be present for one to twelve days, the period usually corresponding with that part of the month covering menstrual activity (i.e., premenstrual swelling and menstruation) in a woman with an intact uterus and ovaries or to that part of the month of previous menstrual activity in a castrated woman. The onset of bladder symptoms may vary; some patients noted that bladder irritability occurred three to seven days before menstruation, and others had no symptoms until menstruation developed, or these symptoms occurred in the last one or two days of menstruation with a gradual tapering off in the next three to seven days. The addition of successive monthly changes to the existing endometrial lesion in the bladder in undiagnosed or untreated patients produced a striking increase in the severity of the bladder symptoms, which must be attributed to the cumulative increase of menstruation linked phenomena within the vesical lesion.

Disturbances of menstruation, i.e., dysmenorrhea, metrorrhagia and menorrhagia, were relatively common complaints and were present in 24 of 56 cases in this series.

The duration of symptoms referable to the symptoms was recorded in 36 cases and varied from three days to eighteen years, with an average of four and one-half years.

Palpable Mass. — A palpable bladder mass was present in the suprapubic area or vaginally in 21 of 46 cases (Moore and others) and in 22 of 56 cases in our series. In the latter series the mass was detected by vaginal examination in 20 cases. It varied in size from that of a hazelnut to that of a small orange and was usually described as firm and slightly irregular. In several instances, the mass was reported as tender, and pressure on it reproduced the original complaint of bladder pain.

Previous Surgical Intervention.—A careful history should be taken in every case of vesical endometriosis, as information may be elicited concerning a previous gynecologic or abdominal operation which may have a direct etiologic bearing on the development of the bladder lesion. Previous gynecologic or abdominal operations were reported in 27 of 46 cases (Moore and others) and in 39 of our 56 cases. In the latter group a single operation was performed in 2 cases, two operations in 9 cases, three operations in 3 cases and four operations or more in 5 cases.

No particular type of operation manifested a specific tendency to the development of endometriosis. The operative procedures employed in this series included abdominal pelvic operation (alone), 15 cases; abdominal pelvic operation with appendectomy, 8 cases; appendectomy, 7 cases; exploratory laparotomy, 5 cases; dilation of the cervix and uterine curettage, 5 cases; vaginal hysterectomy, 4 cases; vaginal hysterotomy, 2 cases; cesarean section, 2 cases, and vesicovaginal fistula repair, colpotomy, culdoscopy and induced abortion, 1 case each, respectively.

One cannot emphasize too strongly the importance and value of employing an extremely cautious surgical technic during any abdominal, pelvic or gynecologic operation, in order to prevent dissemination of endometrial tissue throughout the peritoneal cavity.

Associated Pathologic Conditions.—In the majority of cases of vesical endometriosis the lesion was confined to the bladder, with no abnormalities of the female reproductive organs demonstrated by palpation or at operation. The presence of uterine fibromyomas was recorded in 10 cases, chocolate cysts of one or both ovaries in 7 cases, pelvic endometriosis in 7 cases and endometriosis of the broad ligament in 2 cases.

Associated pathologic lesions in the upper part of the urinary tract were observed in only 3 cases, i.e., pyonephrosis (Trabucco), ureteral stone (Higgins) and crossed dystopic kidney (Modelski).

Diagnosis.—The diagnosis of vesical endometriosis was made cystoscopically in 32 cases, by operation (and verified by pathologic study) in 18 cases and by cystoscopic biopsy in 6 cases. Cystoscopic biopsy was employed in 2 other cases but led to an incorrect diagnosis owing mainly to faulty technic.

Cystoscopic Observations.—Cystoscopic examination has proved to be a most valuable diagnostic procedure. The first cystoscopic description of vesical endometriosis was made by Mueller (1927), who made a tentative diagnosis of an angiomatous tumor, the correct diagnosis being established by histopathologic examination of the operative specimen. Ottow (1929) made the first correct preoperative cystoscopic diagnosis. As has been mentioned, the cystoscopic picture varies with the cyclic phase induced by ovarian hormonal activity. Consequently, repeated cystoscopic examinations at different times of the menstrual month may be necessary to establish the correct diagnosis.

In the premenstrual period, an elevated area can be detected on the posterior vesical wall, adjacent to or near the trigone or near the dome of the bladder. The vesical mucous membrane surrounding the tumor may show marked congestion and edema, imparting a foldlike appearance which the German authors have designated as "pores." Through the intact mucous membrane over the tumor one may discern some small cysts, which appear to be translucent or may possess a bluish cast resulting from distention with hemorrhagic secretion.

During menstruation the tumor usually appears to be much larger and more congested and the cystic areas are a deeper bluish black and less translucent. When the tumor mass is undergoing active menstrual changes actual bleeding and sloughing may be observed, which may interfere with accurate visualization and diagnosis of the tumor.

For several days post menstruum the tumor retains its large size, but the congestion and edema are less marked and the bluish black cysts may be still seen, with a lesser degree of color intensity. In the intermenstruum the tumor undergoes considerable retrogression and shrinkage, and only a few scattered blue-black cysts can be seen. The congestion and edema show a decided decrease, and the tumor area assumes a diffuse or irregular spotty yellowish red coloration.

After removal or irradiation of the ovaries the cystoscopic appearance undergoes rapid and progressive changes. The tumor mass becomes smaller and eventually disappears. The edema and congestion subside promptly, and the cystic areas become fibrotic and disappear. The time required for complete disappearance of the tumor varies, and often a year or more may elapse before this is accomplished. Reactivation of the tumor, with recurrence of vesical symptoms, may develop when estrogenic therapy is instituted for menopausal symptoms in irradiated or castrated women.

Pregnancy may lead to a temporary abatement of bladder symptoms and improvement in the cystoscopic appearance of the tumor area. When spontaneous abortion occurs, however, as in Mueller's case, or the pregnancy is terminated by a normal labor, the cyclic tumor changes and the bladder symptoms reappear.

Biopsy.—Biopsy is indicated in every case of suspected endometriosis of the bladder. While it may not always be possible to establish the correct diagnosis by this method, it will serve to exclude a malignant tumor, which is most frequently confused with this condition.

A biopsy was performed in 6 of 48 cases (Moore and others) and a correct diagnosis made in only 2 (Phillips, Kahle). In the other 4 the condition was reported as chronic inflammation, and the correct diagnosis was made after excision of the tumor. This diagnostic procedure was successfully employed in 8 of 10 cases in our series of 56.

The biopsy specimen should be taken by means of a Lowsley biopsy forceps, a "cold" punch or the suction cup technic of Higgins.

Removal of a portion of the tumor by electrocoagulation with a transurethral resectoscope is unsatisfactory because of the tissue necrosis produced, which interferes with accurate histopathologic diagnosis.

Location of the Endometrial Lesion in the Bladder.—There is a paucity of data concerning the exact location of the tumor. In the majority of cases in which excision or segmental resection is performed the tumor has been described as situated on the posterior wall or near the dome of the bladder. In the 56 cases studied, the location of the tumor at the time of cystoscopic study was reported as the posterior wall in the region of the trigone in 31 cases, at the dome in 2 cases and on the lateral walls 4 cases. The tumor was described as covering one ureteral orifice in 7 cases and was responsible for unilateral ureteral obstruction in 1 case. Kahle observed a case in which the tumor obscured both ureteral orifices and produced a vesicosigmoidal fistula at the site of the extensive endometrial lesion on the right lateral wall near the dome of the bladder.

Differential Diagnosis.—Endometriosis of the bladder must be carefully differentiated from the following benign and malignant lesions of the bladder:

1. *Benign Lesions:* (a) *Varix and Angioma.* The venous congestion and bluish cysts in the submucosa or mucosa in vesical endometriosis may be readily mistaken for a varix or angioma. The cyclic character of the bladder symptoms, the diminution in the size of the endometrial mass and the disappearance or diminution in the congestion and the decrease in size or disappearance of the bluish cysts during the intermenstrual periods serve to exclude the diagnosis of varix or angioma.

(b) *Papilloma.* When the endometrial tumor is small and elevated and its surface is ulcerated and bleeding, it may be extremely difficult to exclude a benign or malignant papilloma. The difficulty is further increased when a biopsy specimen of the tumor mass is taken with a resectoscope and by electrocoagulating current and reveals dessicated glands and muscle with distorted cellular morphologic structure. Such tissue fragments are not infrequently mistaken for that associated with normal or irritative papillary hyperplasia of the vesical mucosa. A careful history, however, is the most valuable aid in differentiating between the two conditions.

(c) *Localized Vesical Inflammation or Ulcer.* In an occasional early case of vesical endometriosis devoid of mucosal invasion, the surface of the endometrial tumor mass may show diffuse or mottled congestion and a surrounding area of bullous edema, which may lead to an erroneous diagnosis based on cystoscopic data alone or on the inconclusive histologic observations of a superficial or inadequate biopsy.

2. *Malignant Lesions:* (a) *Infiltrating Carcinoma.* This lesion is most frequently confused with vesical endometriosis. In the early case of vesical endometriosis the tumor mass originates in the vesicouterine or vesicovaginal septums and in-

vades the bladder without penetrating the mucosa. The irregular surface of the vesical endometrial tumor, with its sharply defined area of congestion and surrounding induration and edema, may add to the diagnostic difficulty.

In cases of late or advanced endometriosis the differential diagnosis is not too difficult, as the single or multiple bluish black cysts scattered throughout the tumor are sharply demarcated from the surrounding normal vesical mucosa.

(b) *Stromal Endometriosis.* This is a rare type of primary uterine neoplasm characterized by infiltrative growth into the parametrial areas, with secondary involvement of the other pelvic viscera. McFarlane and others (1958) collected only 102 cases, and involvement of the urinary tract was observed in 12 per cent. Initial invasion of the bladder occurs in the posterior wall near the trigone. The intravesical appearance of the tumor is that of a pinkish gray or yellowish white mass covered with soft elevated polypoid masses. The tumor often obscures such normal anatomic landmarks as the trigone and ureteral orifices. The bladder walls are thickened and indurated by nodular or ropelike masses of tumor. Unilateral or bilateral involvement of the ureters due to infiltration or extrinsic pressure has been reported.

The majority of patients are in the second half of their reproductive lives. The chief complaints are dysmenorrhea, menorrhagia, abnormal noncyclic uterine hemorrhage, pelvic pain and tumefaction in the lower part of the abdomen. When the bladder is involved, severe urinary disturbance may occur. The most constant physical sign is a symmetrically enlarged uterus, with intrauterine polypoid growths in 45 per cent.

Treatment.—The choice of the specific method of treatment of vesical endometriosis should be the joint responsibility of the urologist and gynecologist, for the final choice must be based on a careful evaluation of the following conditions or factors: the patient's age, marital status and desire for future pregnancies; the extent of the vesical lesion; the severity of symptoms referable to the bladder; the presence of pelvic disease, and the severity of menstrual disorder. It is folly to direct all therapeutic efforts toward correcting the vesical lesion and overlook or disregard the disorders of the female pelvic organs.

Vesical endometriosis may be treated by (a) surgical intervention, (a) irradiation or (c) hormonal therapy. Surgical treatment, which consists of either localized excision of the tumor or segmental resection of the bladder, has been employed in three types of cases:

1. Those in which the endometrial lesion is limited to the bladder and no similar or other disease process can be demonstrated in the pelvic organs.

2. Those in which the endometrial lesion in the bladder is accompanied by other lesions in the pelvic organs.

3. Those in which the endometrial lesion in the bladder is accompanied by serious complications in the urinary tract as a result of ureteral obstruction or infiltration, or the vesical endometrial lesion has undergone malignant degeneration.

The first group covers about 40 per cent of cases of vesical endometriosis and usually includes relatively young women who, because of their desire for future pregnancy, are opposed to surgical castration or irradiation therapy, or in whose cases hormonal therapy is contraindicated or undesirable.

The results of surgical treatment in this group are very satisfactory. In 48 cases reviewed by Moore and his associates, local excision was employed in 7 cases, with 1 failure, and segmental resection in 28 cases, with 27 cures. In our own series this method, it will serve to exclude a malignant tumor, which is most frequently confused with this condition.

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(c) *Localized Vesical Inflammation or Ulcer.* In an occasional early case of vesical endometriosis devoid of mucosal invasion, the surface of the endometrial tumor mass may show diffuse or mottled congestion and a surrounding area of bullous edema, which may lead to an erroneous diagnosis based on cystoscopic data alone or on the inconclusive histologic observations of a superficial or inadequate biopsy.

2. *Malignant Lesions:* (a) *Infiltrating Carcinoma.* This lesion is most frequently confused with vesical endometriosis. In the early case of vesical endometriosis the tumor mass originates in the vesicouterine or vesicovaginal septums and in-

lation is contraindicated in the treatment of vesical endometriosis. Since the endometrial lesion begins in the outer layer of the bladder and gradually invades the remaining layers, it is impossible to remove the entire growth by this means without causing perforation of the bladder. Fulguration of the lesion may control active bleeding but otherwise exerts no deterrent effect on growth. Furthermore, bleeding not infrequently is increased after electrocoagulation, owing to sloughing and necrosis.

Irradiation of the pelvis in a depth dose of 800 tissue roentgens (Beecham and McCrea) or 1,000 roentgens at 200 K.V. (Higgins and Stearns) usually suffices to suppress ovarian activity and at the same time to destroy the ectopic endometrial tissue in the bladder and pelvis.

Irradiation of the ovaries was employed as the sole therapeutic measure in only 6 cases (Schmutz and Boba, Higgins [3 cases], Balfour, and Gabor). Postoperative irradiation was employed after transurethral resection by Tolson and Skitarelic, after excision of the bladder in 2 cases (Ockuly and Helwig; Siegmund) and after simple hysterectomy without removal of ovaries or excision of the bladder tumor (Caure and Ramos). Irradiation of the ovaries is indicated (a) for poor surgical risks, (b) for patients with extensive involvement of the bladder, ureteral orifices, ureteral walls and urethrovesical orifice and regarded as unsuitable for surgical treatment, and (c) for older women at or near the menopause in whose cases hormonal therapy is deemed inadvisable for various reasons.

Radium therapy has been tried in several early cases with uniformly poor results, and has been discarded.

When the vesical lesion occurs in women in the preclimacteric period or in those approaching menopause, the advisability of operation or irradiation must be given careful consideration. If the vesical and menstrual symptoms are severe, irradiation or even operation may be required to obtain permanent relief. In women at or near the menopause, with relatively slight urinary and menstrual discomfort, one may proceed more cautiously and await the menopause to determine the degree of relief obtained, or resort to hormonal therapy to suppress ovarian activity.

Hormonal therapy with estrogens and androgens has not been employed in a sufficient number of cases of vesical endometriosis to permit an accurate evaluation of its efficacy. Karnaky (1948) successfully employed intensive Stilbesterol therapy in 37 cases of pelvic endometriosis, but, surprisingly, this plan of therapy has received greater acclaim and wider usage on the Continent than in the United States. This form of therapy is designed to produce a substitute for pregnancy by inducing prolonged amenorrhea (for at least six months) with progressively larger doses of Stilbesterol. The rationale behind this therapy is that large doses of Stilbesterol lead to suppression of the anterior pituitary gland, which in turn causes inhibition of ovarian function. The disadvantages are the undesirable side effects, i.e., nausea and excessive uterine bleeding on withdrawal.

Testosterone (in doses of 10 mg. three times a day) has also been used in cases of pelvic endometriosis, but the results have not been striking. It has been employed in only 4 cases of vesical endometriosis. This drug presumably has been used to control the growth and induce retrogression of the endometrial tumor through suppression of ovarian activity. Its greatest usefulness thus far has been in combating the profuse bleeding encountered after withdrawal of Stilbesterol or in serving as a stopgap measure to postpone the need of more radical surgical treatment in selected cases. The chief of 56 cases, segmental resection was employed in 22 cases, with excellent results in every case.

The second group covers a slightly smaller group of cases from a statistical standpoint but actually includes the largest group of patients, many of whom do not come to operation. These patients require careful appraisal by the gynecologist, as not infrequently coexistent disease of the pelvic organs is responsible for severe menstrual disorders that require immediate relief. For the younger women of this group, a combination of removal of the diseased pelvic organs and excision of the bladder lesion is indicated. In such cases, however, every effort should be made to conserve as much ovarian tissue as possible. For both young and older women with relatively minor or mild gynecologic complaints and no serious disease of the pelvic organs, operation may be unnecessary and inadvisable, since relief may be obtained by irradiation.

Of our 56 cases, excision of the endometrial lesion was performed simultaneously with removal of the diseased pelvic organs in 11, with good results in every case. Excision of the vesical lesion was preceded by removal of the diseased pelvic organs in 3 cases and followed by removal of the diseased pelvic organs in 2 cases. In only 4 cases was the surgical treatment limited to removal of the pelvic organs.

In the third group, the endometrial lesions in the bladder and pelvis may produce progressive unilateral or bilateral ureteral obstruction by occlusion or infiltration, with serious damage to the upper part of the urinary tract, and may necessitate surgical intervention to preserve the impaired kidney or may require nephrectomy when irreversible damage to one kidney has occurred. When the degree of ureteral obstruction is mild, irradiation may lead to prompt relief, with gradual disappearance of the endometrial lesions.

The presence of malignant degeneration in vescial endometriosis is rare and demands radical surgical treatment. Trabucco and Cartelli reported a case of endometrial adenocarcinoma in a 50-year-old woman who was treated by bilateral ureterosigmoidostomy and two months later by total cystectomy. This patient died in the postoperative period and represents the only operative death in the 56 cases.

The cases in which there are complications in the upper part of the urinary tract are worthy of brief mention. Zoedler reported a case of vesical endometriosis in a 32-year-old woman who had undergone a right nephrectomy 5 years earlier and in whom there subsequently developed partial obstruction of the left ureter by endometrial tissue. A preliminary nephrostomy followed a short time later by excision of the bladder tumor and reimplantation of the left ureter, yielded an excellent result. Kraussold observed a case of endometriosis involving the trigone and left ureter; this was successfully treated by transvaginal resection of the bladder lesion and reimplantation of the ureter. In Siegmund's case the endometrial lesion covered the right ureter and was treated by combined removal of the uterus and the right ovary, excision of the vesical lesion and ligation of the right ureter, but several months later it was necessary to remove the right kidney. Trabucco and Cartelli reported another case of vesical endometriosis in a 32-year-old woman treated by subtotal hysterectomy and bilateral salpingectomy and oophorectomy but requiring a right nephrectomy two years later. Higgins and Stearn successfully treated an endometrioma encroaching on the right ureteral orifice by irradiation and four months later removed a calculus from the right ureter.

Transurethral resection or electrocoagulation is contraindicated in the treatment of vesical endometriosis. Since the endometrial lesion begins in the outer layer of the bladder and gradually invades the remaining layers, it is impossible to remove the entire growth by this means without causing perforation of the bladder. Fulguration of the lesion may control active bleeding but otherwise exerts no deterrent effect on growth. Furthermore, bleeding not infrequently is increased after electrocoagulation, owing to sloughing and necrosis.

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REPORT OF CASES

CASE 1.—C. W., a white housewife, married eleven years, para 2, was first seen by Dr. M. D. Kappelman on May 8, 1959, complaining of painful urination. For the past year she had had dysuria, urgency and frequency of urination (at intervals of one hour during the day and 0-1 time during the night), accompanied by low abdominal pains and frequent watery stools. These symptoms were particularly marked on the day before menstruation and during menstruation. Between periods the patient was asymptomatic. She had stress incontinence at irregular intervals. Menstruation had begun at the age of 13 years, with a regular cycle of twenty-five days and a duration of five days, with moderate flow and slight pain. The patient had undergone appendectomy at the age of 9 years.

Physical examination revealed no abnormality. Pelvic examination disclosed the presence of several small fibroids on the anterior wall of the uterus, which appeared to be pressing on the bladder. The urine was normal. The patient was admitted to the Sinai Hospital on August 7.

Proctoscopic examination gave negative results. Cystoscopic study revealed a small area approximately 3 cm. in diameter of injected bladder mucosa on the posterior wall near the dome, which appeared to be pushed inward as a result of external pressure. A mild degree of trigonitis was present. No tumor, blebs or cysts were observed. The cystogram was essentially normal. A tentative diagnosis of multiple fibromyomas was made, and the possibility of endometriosis of the uterus and bladder was considered.

On August 10 pelvic examination was performed, with the patient under anesthesia, and revealed the uterus to be enlarged 1.5 times and irregular, with a firm, hard mass about 3 cm. in diameter involving the bladder and uterus. The abdomen was opened and revealed an enlarged uterus with multiple small fibroids and normal tubes and ovaries. On the posterior wall of the bladder, near the dome, there was a firm, hard mass 3 cm. in diameter, which was exposed by dissecting the peritoneum off the bladder. A section of the tumor was removed, and a frozen section was reported as endometrioma. Segmental resection of the bladder was performed by taking a wide margin of bladder at least 1.5 cm. around the tumor mass. The defect in the bladder was closed in three layers with interrupted No. 1 chromic catgut sutures. The uterus, tubes and ovaries were left intact. A No. 22 Foley catheter (5 cc. bag) was passed into the bladder *per urethram*. Convalescence was uneventful, and the patient was discharged on August 21. Pathologic examination of the operative specimen revealed atypical endometrioma involving the serosa, muscularis and submucosa, with no penetration into the mucosa.

CASE 2.—E. A., a white, married housewife, aged 34, para 2, was admitted to the Sinai Hospital by Dr. E. Wilder on July 9, 1956, with pains in the lower part of the abdomen, dysmenorrhea and a heavy menstrual flow for the past six months. During the past two years, she had also been troubled with urgency, burning and frequency of urination during her menstrual periods. The menstrual history had begun at the age of 12 years; menstruation occurred regularly every thirty days and lasted five days, with moderate menstrual flow but severe dysmenorrhea. No previous abdominal operations were noted.

Physical examination gave essentially normal results except for moderate scoliosis of the spine. Pelvic examination disclosed the uterus to be enlarged and irregularly shaped. Chronic cervicitis with healing erosion was noted. The urine and blood were normal.

On July 11 cystoscopic study revealed a small area (approximately 1.5 cm.) of endometriosis on the left posterolateral wall of the bladder, near the dome. There were several small bluish cystic areas (1 to 2 mm. in diameter) scattered throughout the tumor mass. There was no induration or edema around the mass. Both ureteral orifices were normal, and a No. 5 catheter was passed up each ureter with ease. Bilateral retrograde pyelograms revealed normal kidneys and ureters.

On July 12, pelvic examination with the patient under anesthesia revealed an enlarged uterus, but no definite mass in the bladder or adnexal areas could be palpated. A diagnostic dilation and curettage and a cervical biopsy were performed. The pathologic diagnosis was premenstrual endometrium and chronic cervicitis with erosion. The patient was discharged on July 13, having refused an abdominal operation to determine the extent of the endometriosis. She was given Stilbesterol, 1 mg. daily. She remained free of symptoms but refused cystoscopic examination. In June 1957 she stated that she was symptom free.

CASE 3.—M. P., a white, married housewife aged 41, para 1, was admitted to Sinai Hospital by Dr. A. E. Goldstein on Sept. 2, 1956, complaining of severe burning on urination and pain in the right kidney area of eleven years' duration. She stated that, immediately after the birth of her only child eleven years earlier, symptoms of cystitis and right ureteral obstruction developed and required frequent catheterization and intensive antibiotic therapy. She was seen by a gynecologist several months later because of recurrent and frequent vaginal bleeding, for which a diagnostic curettage was performed. After this she was free of symptoms for six months; then pronounced dysuria with urgency and frequency of urination, developed, being present chiefly during the menstrual periods and accompanied by severe dysmenorrhea.

In 1948 the patient underwent an abdominal operation at another hospital. A supravaginal hysterectomy, with removal of both tubes, the right ovary, part of the left ovary and the appendix, was performed. A diagnosis of intraperitoneal endometriosis was made. The patient was relatively asymptomatic for the next eight months, after which symptoms of severe cystitis and low abdominal pains occurred. She was given radiation therapy to the remaining portion of the left ovary and was relieved for three or four months. Because of the recurrence of severe vesical symptoms in the early part of 1950, cystoscopic examination was performed elsewhere with presumably negative results as far as the bladder was concerned. She was subjected to two exploratory laparotomies (1951 and 1954) for adhesions (?).

For the past three years, she had been troubled with marked urgency, burning on urination, dysuria and diurnal and nocturnal frequency, but no hematuria. Physical and pelvic examination gave negative results. The urine was normal. Cystoscopic examination in the office on August 15, revealed a bulging mass in the bladder, above the trigone, extending from the right lateral to the left lateral wall. The mucosal surface over the mass was intact, and no ulceration, cyst or edema was observed in or around the mass. Both ureteral orifices were normal in size, shape and position. A No. 5 F. catheter was passed up each ureter with ease, and clear urine was obtained from each kidney. A cystogram showed a depression in the right lateral wall of the bladder.

On September 4, pelvic examination was performed, with the patient under anesthesia, and revealed a mass in the right lateral wall of the bladder. Operation was performed through a midline incision. A mass the size of a golf ball was observed in the right posterolateral wall of the bladder. There was no involvement of the right ureter. There were no other evidences of intraperitoneal involvement. A wide excision of the tumor mass was performed with the electric knife. The bladder was closed in layers with interrupted No. 1 chromic catgut sutures, and a No. 20 F. Foley catheter (5 cc.) was passed into the bladder *per urethram*. The catheter was removed on the eleventh postoperative day. Cystoscopic study on September 24 revealed no evidence of the tumor; a small amount of injection and edema was observed near the trigone at the operative site. The patient was discharged on September 30 and has remained free of symptoms.

CASE 4.—A. S., a white, married housewife aged 35 was admitted to the Sinai Hospital on Aug. 12, 1946 by Dr. H. M. Radman, complaining of excessive vaginal bleeding of two months' duration. She also stated that the urine was blood-tinged on several occasions. There were no other urinary symptoms. Intense lower abdominal pain was present one week prior to the onset of the menses.

Menstruation had begun at the age of 12 years, appeared every twenty-eight days and lasted four to five days. In the past two months the flow had become more profuse. She had been married one year but had failed to become pregnant, despite the fact that no precautions or contraceptives were used. The family and past histories were normal.

Physical examination revealed no abnormality. On pelvic examination. the cervix was normal and the uterus was anteflexed, markedly irregular and about the size of a three months' pregnancy. The right ovary was of normal size, but in the left adnexal region there was a soft cystic mass about the size of

a navel orange. Studies of the blood and urine gave negative results.

On August 13 a laparotomy was performed and disclosed bilateral endometrial ovarian cysts, the left being about the size of an orange and the right about the size of an egg. There were scattered endometrial plaques over the pelvic peritoneum and the posterior surface of the bladder. The vesical changes were confined to the serosa and did not appear to extend into the muscular coats of the bladder. Supracervical hysterectomy and bilateral salpingo-oophorectomy were performed. The postoperative course was uneventful, and the patient was discharged on August 21. In the next ten years she reported annually for examination, the results of which were entirely negative.

SUMMARY

Endometriosis of the urinary tract is a rare clinical and pathologic entity. The authors have reviewed the literature and collected 6 cases of renal, 15 cases of ureteral, 3 cases of urethral and 123 cases of vesical endometriosis. They add 4 personal cases of vesical endometriosis.

Vesical endometriosis may occur at any time between the menarche and the menopause but is most frequently observed between the ages of 25 and 40 years.

There is no unanimity of opinion concerning the pathogenesis of vesical endometriosis. The most logical explanation appears to be the migratory theory, which regards the endometrial elements as originating in the uterine mucosa and reaching an ectopic position by (a) direct invasion, (b) implantation or (c) metastasis.

The most common features of vesical endometriosis are pain or discomfort (78 per cent) in the suprapubic area or vesicovaginal area, or cyclic urinary symptoms, (frequency, urgency, dysuria). A mass palpable on vaginal examination was present in 40 per cent of the cases. Hematuria is relatively uncommon and was present in only 25 per cent. Menstrual disturbances (dysmenorrhea, menorrhagia, metrorrhagia, etc.) were present in about 50 per cent.

The nature and severity of the vesical symptoms varies with the location, size and duration of the tumor.

Cystoscopic examination is the most valuable diagnostic aid. The tumor usually appears as a raised, indurated irregular growth on the posterior wall of the bladder near the trigone. The mucous membrane covering the tumor is intact and often appears congested or hemorrhagic; scattered throughout its surface are single or multiple small bluish black cystic areas. The tumor mass may be surrounded by an area of congestion or edema.

Repeated examinations should be performed at different phases of the menstrual cycle, because the cystoscopic signs are progressively more intense during active menstruation, gradually tapering off in the postmenstrual period.

Treatment of vesical endometriosis must be individualized after careful consideration of many factors: age, marital status, desire for future pregnancy, severity of symptoms, presence of associated endometrial or other pelvic disease, etc.

Treatment of vesical endometriosis includes (a) operation, (b) irradiation and (c) hormonal therapy. Conservative surgical treatment consisting of excision of the endometrial tumor or segmental resection of the bladder is advocated when the patient is relatively young and desirous of becoming pregnant. When the vesical lesion is accompanied by other extensive endometrial lesions or other symptom-producing lesions of the pelvic organs, excision of the bladder and removal of the diseased pelvic organs are indicated, with every effort to preserve as much ovarian tissue as possible. Early reimplantation of the ureter may be necessary when the ureter is obstructed. Radical operation in the form of bilateral ureterosigmoidos-

tomy and total cystectomy may be necessary when the vesical lesion exhibits malignant degeneration.

Irradiation of the ovaries is the method of choice for women at or near the menopause, for poor surgical risks and for patients with extensive involvement of the bladder, vesicourethral orifice and ureter who are regarded as unsuitable for surgical treatment. This form of therapy not only suppresses ovarian activity but has a beneficial effect on the endometrial lesions.

Hormonal therapy with estrogens or androgens has not been employed in a sufficient number of cases of vesical endometriosis to permit an accurate appraisal of its therapeutic efficacy. The advantages and dangers of hormonal treatment for pelvic endometriosis indicate that this form of therapy must be used with extreme caution.

Transurethral resection, electrocoagulation and radium therapy are contraindicated in the treatment of vesical endometriosis.

ZUSAMMENFASSUNG

Die Endometriose des Harnapparates stellt eine seltene klinische und pathologische Einheit dar. Nach Durchsicht des Schrifttums hat der Verfasser sechs Fälle von Endometriose der Niere, 15 Fälle der Harnleiter, drei Fälle der Harnröhre und 123 Fälle der Harnblase gesammelt. Diesen fügt er vier eigene Fälle von Blasenendometriose hinzu.

Endometriose der Harnblase kann zu jeder Zeit zwischen dem Einsetzen der Menstruation und dem Klimakterium auftreten, wird aber am häufigsten im Alter zwischen 25 und 40 Jahren beobachtet.

Über die Pathogenese der Blasenendometriose besteht keine einheitliche Auffassung. Die logischste Erklärung scheint mit der Wanderungstheorie gegeben zu sein, wonach die Elemente des Endometriums in der Gebärmutterschleimhaut entstehen und eine ektopische Lage durch a) direktes Eindringen, b) Überpflanzung oder c) Metastasierung erreichen.

Die häufigsten Erscheinungen der Blasenendometriose sind Schmerz und Unbehagen (78 Prozent) in der Gegend oberhalb des Schambeins oder in der Blasen-Scheiden-Gegend oder zyklische Harnsymptome (häufige Harnentleerung, Harndrang, Beschwerden beim Wasserlassen). Eine bei vaginaler Untersuchung tastbare Geschwulst bestand in 40 Prozent der Fälle. Harnblutung ist verhältnismässig ungewöhnlich und bestand nur in 25 Prozent. Menstruelle Störungen (Schmerzen bei der Periode, menstruelle Blutungen, Gebärmutterblutungen usw.) bestanden in etwa 50 Prozent.

Die Art und Schwere der Blasensymptome wechselt mit dem Sitz, der Grösse und der Dauer des Bestehens der Geschwulst.

Die zystoskopische Untersuchung ist das wertvollste diagnostische Hilfsmittel. Der Tumor erscheint gewöhnlich als eine erhabene verhärtete unregelmässige Geschwulst an der hinteren Blasenwand in der Nähe des Lieutaudschen Dreiecks. Die den Tumor bedeckende Schleimhaut ist intakt und erscheint häufig gestaut und blutig; über ihre Fläche sind einzelne oder mehrfache kleine bläulich schwarze zystische Stellen verstreut. Die Geschwulstmasse kann von Gebieten der Stauung oder von Oedem umgeben sein.

Wiederholte Untersuchungen sollten in verschiedenen Stadien des menstruellen Zyklus ausgeführt werden, weil die zystoskopischen Veränderungen während der aktiven Menstruation an Intensität zunehmen und in der postmenstruellen Periode allmählich wieder abnehmen.

Die Behandlung der Blasenendometriose muss dem einzelnen Falle nach sorgfältiger Erwägung vieler Faktoren angepasst sein. Dazu gehören das Alter der Patien-

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SUMMARY

Endometriosis of the urinary tract is a rare clinical and pathologic entity. The authors have reviewed the literature and collected 6 cases of renal, 15 cases of ureteral, 3 cases of urethral and 123 cases of vesical endometriosis. They add 4 personal cases of vesical endometriosis.

Vesical endometriosis may occur at any time between the menarche and the menopause but is most frequently observed between the ages of 25 and 40 years.

There is no unanimity of opinion concerning the pathogenesis of vesical endometriosis. The most logical explanation appears to be the migratory theory, which regards the endometrial elements as originating in the uterine mucosa and reaching an ectopic position by (a) direct invasion, (b) implantation or (c) metastasis.

The most common features of vesical endometriosis are pain or discomfort (78 per cent) in the suprapubic area or vesicovaginal area, or cyclic urinary symptoms, (frequency, urgency, dysuria). A mass palpable on vaginal examination was present in 40 per cent of the cases. Hematuria is relatively uncommon and was present in only 25 per cent. Menstrual disturbances (dysmenorrhea, menorrhagia, metrorrhagia, etc.) were present in about 50 per cent.

The nature and severity of the vesical symptoms varies with the location, size and duration of the tumor.

Cystoscopic examination is the most valuable diagnostic aid. The tumor usually appears as a raised, indurated irregular growth on the posterior wall of the bladder near the trigone. The mucous membrane covering the tumor is intact and often appears congested or hemorrhagic; scattered throughout its surface are single or multiple small bluish black cystic areas. The tumor mass may be surrounded by an area of congestion or edema.

Repeated examinations should be performed at different phases of the menstrual cycle, because the cystoscopic signs are progressively more intense during active menstruation, gradually tapering off in the postmenstrual period.

Treatment of vesical endometriosis must be individualized after careful consideration of many factors: age, marital status, desire for future pregnancy, severity of symptoms, presence of associated endometrial or other pelvic disease, etc.

Treatment of vesical endometriosis includes (a) operation, (b) irradiation and (c) hormonal therapy. Conservative surgical treatment consisting of excision of the endometrial tumor or segmental resection of the bladder is advocated when the patient is relatively young and desirous of becoming pregnant. When the vesical lesion is accompanied by other extensive endometrial lesions or other symptom-producing lesions of the pelvic organs, excision of the bladder and removal of the diseased pelvic organs are indicated, with every effort to preserve as much ovarian tissue as possible. Early reimplantation of the ureter may be necessary when the ureter is obstructed. Radical operation in the form of bilateral ureterosigmoidos-

des cas. Il y avait des troubles menstruels (dysménorrhée, ménorragie, métrorragie, etc.) dans environ 50% des cas.

La nature et la gravité des symptômes vésicaux varient selon la localisation, le volume et l'âge de la tumeur.

L'examen cystoscopique apporte au diagnostic une aide des plus précieuse. La tumeur se présente en général comme une grosseur saillante, indurée et irrégulière sur la paroi postérieure de la vessie au voisinage du trigone. La membrane muqueuse recouvrant la tumeur est intacte, souvent congestionnée ou hémorragique; elle montre, répandues sur toute sa surface, de petites zones kystiques bleunoirâtres, isolées ou multiples. La masse tumorale peut être entourée d'une zone de congestion ou d'oedème.

Des examens répétés devraient être pratiqués à diverses phases du cycle menstruel, car les signes cystoscopiques sont progressivement plus marqués durant la menstruation active, et diminuent graduellement pendant la période post-menstruelle.

Le traitement de l'endométriose vésicale doit être individualisé après considération attentive d'un grand nombre de facteurs: âge, status matrimonial, désir d'une grossesse future, gravité des symptômes, affection concomitante du bassin ou de l'endomètre.

Le traitement de l'endométriose vésicale comporte: a) l'intervention chirurgicale, b) l'irradiation et c) la thérapeutique hormonale. Le traitement chirurgicale conservateur (excision de la tumeur de l'endomètre ou résection partielle de la vessie) est recommandé lorsque la malade est relativement jeune et désire avoir des enfants. Quand la lésion vésicale s'accompagne d'autres lésions étendues de l'endomètre ou d'autres symptômes de lésions des organes pelviens, l'ablation de la vessie et des organes pelviens atteints est indiyuée, en s'efforçant de préserver au maximum le tissu ovarien. Une réimplantation urétérale précoce peut être nécessaire en cas d'obstruction de l'uretère. Une opération radicale sous forme d'urétérosigmoidostomie bilatérale avec cystectomie totale peut être indiquée lorsque la lésion vésicale révèle une dégénérescence maligne.

L'irradiation ovarienne est la méthode de choix chez les femmes près de la ménopause ou à l'âge de la ménopause, dans les cas où le risque opératoire est grand et quand la lésion s'étend largement à la vessie, à l'orifice vésico-uréthral et à l'uretère, cas considérés comme impropres à une thérapeutique chirurgicale. L'irradiation ovarienne non seulement supprime l'activité ovarienne mais elle agit utilement sur les lésions de l'endomètre.

La thérapeutique hormonale aux oestrogènes ou androgènes n'a pas été utilisée dans un nombre suffisant de cas d'endométriose vésicale pour permettre une évaluation précise de son efficacité. Ses avantages et ses inconvénients dans l'endométriose pelvienne montrent qu'elle doit être appliquée avec une extrême prodence.

La résection transuréthrale, l'électrocoagulation et la radium-thérapie sont contre-indiquées dans le traitement de l'endométriose vésicale.

RESUMEN

La endometriosis del tracto urinario es una entidad clínica y patológica rara. Los autores revisando la literatura han recogidos seis casos de endometriosis renal, 15 de ureteral, 3 de uretral y 123 de localización vesical. Personalmente citan 4 casos de endometriosis vesical.

A cualquier edad entre la menarquia y la menopausia puede presentarse la endometriosis vesical pero lo hace más frecuentemente entre los 25 y los 40 años. No existe una opinión unánima sobre la patogenesis de la endometriosis vesical. La explicación más lógica no es más que una teoría que considera los elementos endo-

tin, die ehelichen Verhältnisse, der Wunsch nach Schwangerschaften in der Zukunft, die Schwere der Krankheitserscheinungen, das gleichzeitige Bestehen anderer endometrieller oder sonstiger Erkrankungen des kleinen Beckens usw.

Zur Behandlung der Blasenendometriose gehörten a) die Operation, b) Bestrahlung und c) Hormontherapie. Wenn die Patientin verhältnismässig jung ist und den Wunsch hat, schwanger zu werden, wird konservative chirurgische Behandlung empfohlen, die in Resektion der endometriellen Geschwulst oder in Ausschneidung eines Blasenabschnitts besteht. Wenn die Blasenerkrankung mit anderen ausgedehnten endometriellen Veränderungen oder anderen Symptome hervorrufenden Erkrankungen der Beckenorgane vergesellschaftet ist, ist Resektion der Blase und der erkrankten Beckenorgane angezeigt, wobei nichts unversucht bleiben darf, so viel Eierstocksgewebe wie möglich zu erhalten. Frühzeitige Wiedereinpflanzung des Harnleiters kann notwendig werden, wenn der Harnleiter verstopft ist. Wenn die Blasenerkrankung Zeichen bösartiger Entartung zeigt, kann eine radikale Operation in Gestalt einer beiderseitigen Ureterosigmoideostomie und totaler Blasenresektion notwendig werden.

Die Bestrahlung der Eierstöcke stellt das Behandlungsverfahren der Wahl dar bei Frauen im oder nahne dem Klimakterium, bei Patientinnen, die schlechte Operationskandidaten sind, und bei solchen, die eine ausgedehnte Beteiligung der Blase, der Blasenharnröhrenverbindung und des Harnleiters aufweisen und sich als ungeeignet zur chirurgischen Behandlung erweisen. Diese Form der Behandlung unterdrückt nicht nur die Eierstocktätigkeit sondern hat auch einen günstigen Einfluss auf die endometriellen Veränderungen.

Die Behandlung mit weiblichen oder männlichen Geschlechtshormonen ist noch nicht in einer genügenden Anzahl von Fällen mit Blasenendometriose angewandt worden, um eine zuverlässige Auswertung ihrer Wirksamkeit zu gestatten. Die Vorzüge und die Gefahren der Hormonbehandlung bei Endometriose des kleinen Beckens weisen darauf hin, dass diese Therapie mit äusserster Vorsicht angewandt werden muss.

Die transurethrale Resektion, Elektrokoagulation und Radiumbehandlung sind bei Blasenendometriose kontraindiziert.

RÉSUMÉ

L'endométriose de l'appareil urinaire constitue une entité clinique et pathologique rare. Les auteurs ont passé en revue la littérature et ont assemblé 6 cas d'endométriose rénale, 15 cas d'endométriose urétérale, 3 cas d'endométriose uréthrale et 123 cas d'endométriose vésicale, auquels ils ajoutent 4 cas personnels d'endométriose vésicale.

L'endométriose vésicale peut se déclarer à n'importe quelle période entre la première menstruation et la ménopause mais le plus fréquemment entre l'âge de 25 et 40 ans.

Les avis ne sont pas unanimes quant à la pathogénèse de l'endométriose vésicale. L'explication la plus logique paraît être la théorie de migration qui a trait à des éléments endométriques ayant leur origine dans la muqueuse utérine et atteignant une *situation ectopique* a) par envahissement direct, b) par implantation, ou c) par métastases.

Les caractéristiques les plus courantes de l'endométriose vésicale sont la douleur ou une sensation de gêne (78%) dans la région sus-pubienne ou vésicovaginale, ou des symptômes urinaires cycliques (fréquence, urgence, dysurie). Dans 40% des cas l'examen vaginal révélait une masse palpable. L'hématurie est relativement rare et n'a été constatée que dans 25%

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metriales como originados en la mucosa uterina y que alcanzan una posición ectópica por inversión directa, implantación o metástasis.

Las características típicas de la endometriosis son dolor o molestia (78%) en el área suprapúbica o en el área vésicovaginal o síntomas urinarios cíclicos (polaquiuria, micción imperiosa, disuria). En el 40% de los casos se tocaba una masa en la exploración vaginal. La hematuria no es frecuente apareciendo solo en el 25% de los casos. La mitad de las enfermas presetaron trastornos menstruales (dismenorrea, menorragia, metrorragia etc.). La naturaleza y la importancia de los síntomas vesicales varía con la localización, el tamaño y la duración del tumor. El exámen cistoscópico constituye la más valiosa ayuda. Se suele presentar el tumor omo una masa saliente, indurada y de crecimiento irregular en la pared posterior de la vejiga cerca del trígono.

La mucosa que recubre la tumoración está intecta y a menudo aparece congestionada o hemorrágica; sobre su superficie se aprecian extendidas pequeñas áreas quísticas de un azul oscuro. El tumor puede estár rodeado de una masa de congestión o edema.

Se deben repetir los exámenes en las diferentes fases del ciclo menstrual ya que los signos cistoscópicos son más aparentes durante la menstruación activa haciéndose paulatinamente menos aparentes en el período postmenstrual.

El tratamiento de la endometriosis vesieal debe ser individualizado después de considerar varios factores: edad, estado marital, deseo de un embarazo, gravedad de los síntomas, presencia de otro endometrioma o de otra enfermedad pélvica etc.

El tratamiento de la endometriosis vesical incluye (a) operación, (b) irradiación y (c) radioterapia hormonal. Se puede emplear el tratamiento conservador, consistente en excisión del tumor endometrial o resección parcial de la vejiga cuando la enferma es jóven y desea estár embarazada. Cuando la lesión vesical está acompañada de otras lesiones e endometriales extensas o de síntomas de lesiones en los órganos pelvianos estará indicada la excisión de la vejiga y la extirpación de los órganos pelvianos enfermos, intentado conservar todo el tejido ovárico que sea posible. Cuando el ureter está obstruído, puede ser precisa una reimplantación precoz. También puede ser necesario cuando la lesión vesical presenta degeneración maligna, la práctica de una operación radical en forma de ureterosigmoidostomía bilateral.

La irradiación de los ovarios es el método de elección en las mujeres próximas a la menopausia, para los malos sujetos quirúrgicos y para las enfermas con invasión extensa de la vejiga, del orificio vesicoureteral y del ureter, consideradas como inaptas para el tratamiento quirúrgico. Esta terapéutica no solo suprime la actividad ovárica sino que tiene un efecto benéfico en las lesiones endometriales.

El tratamiento hormonal con estrógenos y andrógenos no ha sido empleada en suficiente número de casos para permitir un cálculo acertado de sus posibilidades terapéuticas. Las ventajas y los peligros del tratamiento hormonal en la endometriosis pélvica indica que tal terapéutica debe ser empleada con extrema precaución. La resección transureteral, la electrocoagulación y el radium están contraindicados en el tratamiento de la endometriosis vesical.

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no signs of placental separation and no disturbance in respiration or cyanosis in the second twin after its birth.

The suggested technic is best explained by drawings. In Figure 1 the firstborn of the twins is large, weighing 5, 6 or more pounds; it has a loud cry, and its color is good. Clamp the cord at once! This baby does not need the blood in the placenta; save it for the second twin, which one may assume to be smaller. (Should the second twin also be large, nothing is lost.) The second and smaller twin, after delivery, will thus receive not only the blood rightfully his in the placenta, but *some of the blood that belonged* to the larger twin. In essence, the firstborn larger child is giving the little one a transfusion from their common placenta.

In Figure 2 the firstborn is small, weighing 2, 3 or 4 pounds (907 to 1,814 Gm.). Delay clamping of the cord! Wait until pulsations cease, or strip the cord gently, thus allowing 100 to 150 cc. of blood from the common placenta to enter the fetus. Since the firstborn is small, *we assume that the second twin is larger* and healthier and would not require this extra blood in the placenta. (Roentgen studies prior to delivery might determine the size of the twins and the order of their delivery. This would be an aid in the technic.) This extra blood is tantamount to a *transfusion at birth*. Now, should the second twin also be very small, at least one of the babies would have received sufficient blood to improve its chance for survival—one living child is certainly better than none.

The same procedure can be followed in cesarean section, although with the following modification: If homologous twins should be delivered with the common placenta attached and the cords left unclamped, and should there be a marked difference in their sizes—a glance would show this—the cord of the larger twin going to the placenta (suspended above the level of the twins) should be clamped at once. This would allow the extra blood to go to the smaller twin as in the case of vaginally delivered twins.

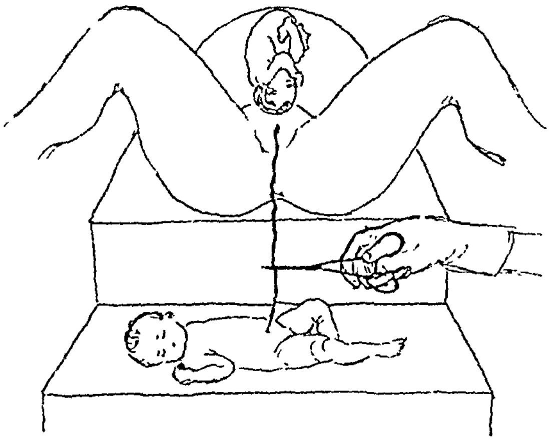

Fig. 1.—Immediate clamping of cord when larger twin is delivered first, to save placental and cord blood for smaller twin.

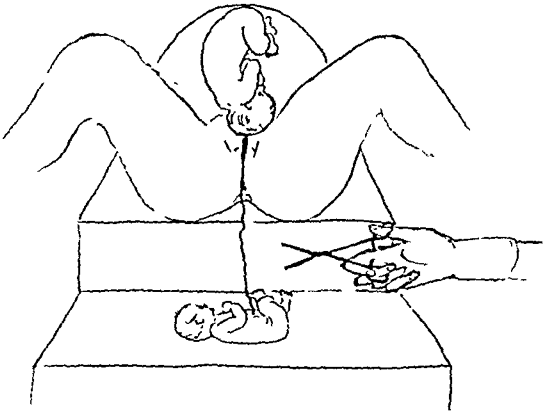

Fig. 2.—Delay in clamping cord, when smaller twin is delivered first, until pulsation ceases, so that blood is delivered to smaller child by gravity. *Alternatively, cord may be stripped. This equals* 100 cc. of extra blood for smaller twin.

RESUMEN Y CONCLUSIONES

El recién nacido recibirá de 75 a 100 cc. de sangre procedente de la placenta y el cordón si, después del parto, se le coloca debajo del nivel de la placenta. En el caso de parto doble, si el primer nacido es pequeño, se recomienta retrasar un poco el

pinzamiento del cordón de forma que el feto reciba por lo menos de 100 a 150 cc. de sangre de la placenta común. Si el primer niño es grande y sano se aconseja pinzar inmediatamente el cordón de forma que el segundo aún dentro del útero puede beneficiarse de la sangre extra. Con algunas modificaciones este método puede ser empleado en las operaciones cesáreas. De esta forma puede conseguirse una menor mortalidad en los casos de embarazo doble o múltiple.

ZUSAMMENFASSUNG UND SCHLUSSFOLGERUNGEN

Ein neugeborener Säugling, der nach der Entbindung unterhalb des Niveaus der Plazenta gelagert ist, empfängt von der Plazenta 75 bis 100 ccm Blut. Wenn bei einer eineiigen Zwillingsschwangerschaft der erstgeborene Zwilling klein ist, empfiehlt es sich, die Abklemmung der Nabelschnur zu verzögern, sodass das Neugeborene mindestens 100 bis 150 ccm Blut von der gemeinsamen Plazenta empfängt. Ist das erstgeborene Kind gross und gesund, wird zu sofortiger Abklemmung der Nabelschnur geraten, damit der zweite Zwilling in der Gebärmutter eine grössere Menge des Plazentarblutes nach der Entbindung sich zunutze machen kann. Diese Methode lässt sich mit gewissen Abänderungen auch beim Kaiserschnitt anwenden. Auf diese Weise kann man bei Zwillingsschwangerschaften die Sterblichkeitsquote des kleineren Zwillings herabsetzen.

RÉSUMÉ ET CONCLUSIONS

Un nouveau-né recevrait de 75 à 100 cc de sang par le cordon ombilical s'il était placé au-dessous du niveau du placenta après la délivrance. Dans le cas de jumeaux unicellulaires, si le premier-né est petit, il est conseillé d'observer un délai avant de couper le cordon, afin que le foetus reçoive un minimum de 100 à 150 cc de sang du placenta. Si le premier-né est grand et sain il est recommandé de couper le cordon sans tarder, afin que le deuxième jumeau, encore dans l'utérus, puisse bénéficier du sang extraplacentaire après sa naissance. Avec des modifications cette méthode peut être utilisée dans des cas de césarienne, permettant d'obtenir un taux de mortalité foetale plus faible pour le plus petit des jumeaux.

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The brain is a wonderful organ. It starts working the moment you get up in the morning, and does not stop until you get into the office.

—*Frost*

In this day of surgical refinement, a pelvic surgeon should be versatile and use the technic best suited to his patient. The incision should fit the patient, rather than the patient the incision.

ZUSAMMENFASSUNG

Eine kürzlich ergangene Umfrage ergibt, dass die meisten gynäkologischen Chirurgen in den grössten Lehrkrankenhäusern der Vereinigten Staaten noch immer den vertikalen Einschnitt bevorzugen.

An einer Serie von 662 Maylard-Schnitten haben sich die meisten gegen die Querinzision vorgebrachten Einwände als nicht stichhaltig erwiesen.

Die technische Ausführung des Maylard-Schnittes lässt sich auch von denen, die in der Ausführung vertikaler Schnitte ausgebildet sind, leicht erlernen. Man muss nur den Mut haben, die Rektusmuskeln zu durchschneiden und sie nicht wieder zusammenzunähen.

Es werden einige wenige Fälle angeführt, in denen eine Querinzision kontraindiziert sein mag.

Die Patientinnen aus der Serie der Verfasser, besonders die, bei denen vorher ein vertikaler Einschnitt vorgenommen worden war, gaben der Querinzision den Vorzug, weil er angenehmer ist und gute kosmetische Resultate zeigt.

Aus ihren eigenen Erfahrungen an 662 innerhalb eines Zeitraumes von sechs Jahren operierten Patientinnen sind die Verfasser zu der Überzeugung gelangt, dass eine echte Querinzision der Maylardschen Art dem Ideal eines Einschnittes für Beckenoperationen am nächsten kommt.

Die Verfeinerung chirurgischer Arbeit in unseren Tagen erfordert, dass der Beckenchirurg vielseitig ist und die Technik anwendet, die sich für die Patientin am besten eignet. Der Einschnitt muss der Patientin und nicht die Patientin dem Einschnitt angepasst werden.

RÉSUMÉ

Il ressort d'une enquête récente que l'incision verticale est toujours encore préférée par la plupart des gynécologues des plus grands hôpitaux enseignants des Etats-Unis.

La série des auteurs comprend 662 incisions selon Maylard et ils n'ont pu trouver probants la majorité des reproches faits à l'incision transversale.

La technique de l'incision de Maylard est très facile à apprendre, même pour ceux entraînés à pratiquer l'incision verticale. Il faut avoir le courage de sectionner les recti et de ne pas les suturer ensuite.

Quelques cas sont cités, dans lesquels l'incision transversale peut être contre-indiquée.

Les malades de la série décrite par les auteurs ont manifesté leur préférence pour l'incision transversale, entre autres pour ses résultats cosmétiques surtout appréciés de celles qui avaient subi antérieurement une incision verticale.

L'étude des auteurs s'étend sur six ans et comprend 662 cas. Ils sont convaincus que l'incision selon Maylard est la plus viennes.

A notre époque de raffinement chirurgical un gynécoloque se doit de faire preuve d'une grande souplesse dans le choix des méthodes et d'utiliser pour chaque malade la technique qui lui est la mieux adaptée. C'est l'incision qui devrait être adaptée aux malades et non les malades qui devraint s'adapter à l'incision qu'on leur impose.

RIASSUNTO

Un recente questionario ha dimostrato che la incisione verticale e' tuttora preferita dalla maggior parte dei chirurghi-ginecologi che lavorano nei piu' grandi ospedali clinici degli Stati Uniti.

Tuttavia le critiche mosse alla incisione trasversale non sono sembrate ragionevoli

all'autore che la ha praticata in una serie di 662 casi. La tecnica della incisione trasversale di Maylard si apprende facilmente anche quando si e' abituati alla incisione verticale. Si deve solo avere il coraggio di tagliare trasversalmente i retti e di non risuturarli. Vi sono solo pochi casi in cui la incisione trasversale e' controindicata.

Le pazienti preferiscono anche dal punto di vista estetico la incisione trasversale, specialmente quelle che hanno avuto gia' una volta una incisione verticale. Secondo la sua esperienza, basata su uno studio di sei anni e su 662 casi, l'autore e' convinto che la incisione trasversale secondo Maylard e' quasi l'ideale per gli interventi sulla pelvi. In questo momento di raffinatezze chirurgiche il chirurgo pelvico deve essere versatile e usare la tecnica piu' adatta alle malate. E' la incisione che deve adattarsi al paziente e non il paziente alla incisione.

RESUMEN

Tal como se deduce de una encuesta reciente la mayor parte de los ginecólogos en los mayores hospitales de enseñanza en los Estados Unidos siguen prefiriendo la laparotomía veritcal.

La mayor parte de las críticas contra la incisión transversal no tienen fundamente de importancia en relación con uan serie de 662 incisiones de Maylard practicadas por el autor. La técnica de la incisión de Maylard es fácil de aprender incluso para los prácticos en la incisión vertical. Se debe tener decisión para seccionar el recto y no suturarlo después.

Se citan una serie de casos en los que está contraindicada la incisión transversal. Los enfermos tratados por el autor han preverido siempre la incisión transversal más confortable y de mayor resultado estético especialmente cuando existía ya una cicatriz de una laparotomía vertical.

De acuerdo con la experiencia del autor, de 662 operadas en 6 años se llega a la conclusión de que la incisión transversa, a la Maylard, es casi la ideal para las intervenciones en la pelvis.

En estos días de refinamiento quirúrgico el cirujano debe saber adaptarse a cada circunstancia. La incisión debe ser la adecuada al enfermo, y no éste a la incisión.

SUMARIO

A incisão vertical é aindapreferida por muitos ginecologistas nos maiores hospitais de ensino dos Estados Unidos ou como é mostrado por um recente questionario. Muitas das criticas citadas contra a incisão transversa não são consideradas significativas r'uma serie dos AA. em 662 incisões de Maylard.

A execução tecnica da incisão de Maylard se aprende facilmente. Deve-se ter a coragem de seccionar os musculos retos e não sutura-los. Poucas veses há contraproche de l'idéal parmi les techniques pelindicação daincisão transversa. Os doentes da autores preferem o conforto e os resultados cosmeticos da incisão transversa, especialmente aqueles que já tinham uma incisão vertical. Acham que depois derealisar 662 incisóes em observação por seis anos estão convencidos que uma incisão de Maylard é o tipo mais proximo do ideal para as operaçóes pelvicas.

Presentemente o cirurgião ginecologista deve ser bastante versatil para usar a incisão que melhor convenha ao paciente e não fazar o contrario.

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Plastic and Reconstructive Surgery

An Expanded Y Cross-Lip Flap for Correction of Central Defects of the Upper Lip

ROBERT J. MEADE, M.D., F.A.C.S., D.A.B.

NEW ORLEANS, LOUISIANA

An operation for repair of central defects of the upper lip by use of an expanded Y flap from the lower lip is described and illustrated. This is applicable particularly to defects resulting from repair of bilateral clefts in which part or all of the prolabium has been discarded. The advantages of the procedure are discussed.

IN the surgical treatment of deformities of the upper lip resulting from bilateral clefts and their surgical closure, the cross-lip flap has been widely accepted. Fogh-Anderson[1] reviewed the history of the development of the procedure. Blair and Letterman[2] presented photographic evidence of its utility. Cannon[3] and Cannon and Murray[4] reported a modification of the classic procedure in which the apex of the flap is divided to improve symmetry. In their essay they remarked that New and Havens used a somewhat similar flap, varying only in that the "tails" were outlined in the lower lip. Gillies and Millard[5] showed a diagram of such a flap but did not discuss it.

Experience with the double-tipped cross-lip flap during the past several years has revealed several advantages that contribute to a satisfactory result. There are many variations in repaired bilateral clefts. Some have marked deficiences of vermilion, and in others the greater tissue deficit is in the upper part of the lip near the base of the columella. This flap can be designed to fulfil the tissue requirements of either or both. Inadequate nostril floors likewise can be repaired. The height of the lip can be adjusted by incision or excision below the alar crura. Defects of the central part of the upper lip resulting from trauma or excision of carcinoma are readily repaired with this flap, varied as indicated by the requirements.

Of equal importance, particularly in double cleft repair, is the effect upon the lower lip. Owing to tightness in the upper lip and underdevelopment of the superior maxilla, the lower lip often protrudes excessively. In the triangular excision the height of the lower lip is increased, and the eversion and protrusion may be little changed or even accentuated. With transposition of the (V-Y) flap and closure, the height of the lower lip is easily controlled, and balance of the upper and lower lips produced.

From the Department of Surgery, Tulane University School of Medicine, and the Owens-Meade Clinic, New Orleans.

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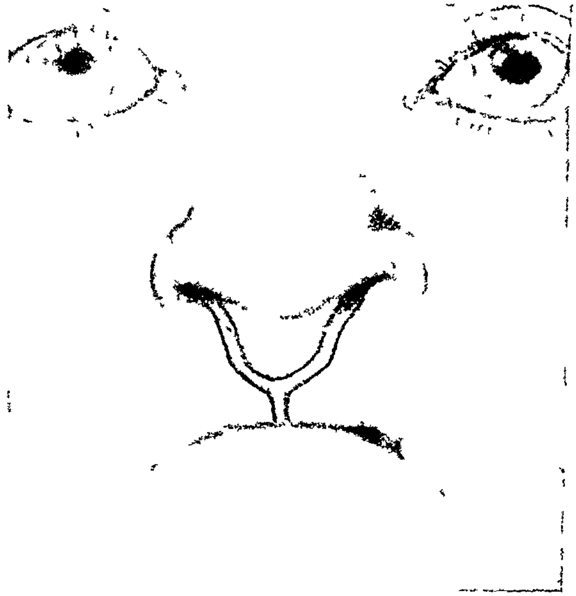


Fig. 1 (see text).

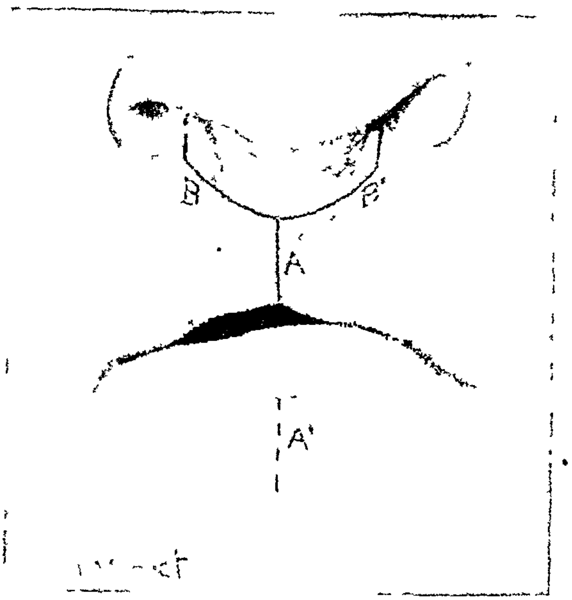
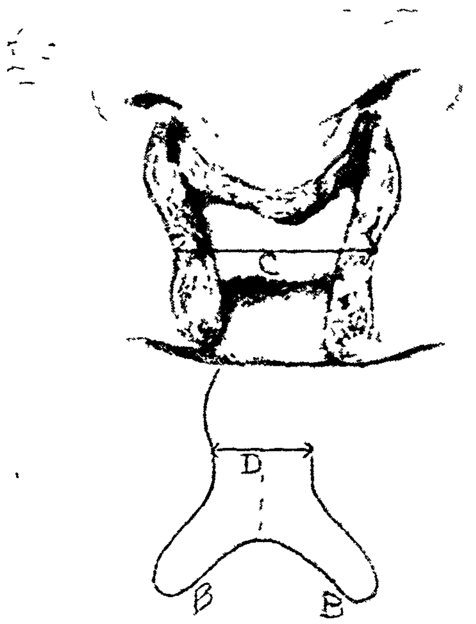


Fig. 2 (see text).

Diagrammatic drawings illustrate the procedure. Bilateral infraorbital blocks are done. The vermilion cutaneous ridges of the upper lip are marked on either side of the scar. Scar excisions are outlined (Fig. 1). The lip is carefully infiltrated with xylocaine combined with epinephrine. Scars are then excised through the full thickness of the lip, well into the nostril floors. If the segments of the lip are insufficiently retracted or are too short, incision along the alar crura will usually free them and provide sufficient length. When they are too long, a horizontal V excision in the same area may be done to shorten them. When these adjustments have been completed, the width of the defect is measured with a compass. The flap markings are laid off on the lower lip, one-half the width of the defect, in the upper lip, at the vermilion-skin ridge. The height of the upper lip at its center is influenced by the height of the lateral components but cannot be accurately determined. Usually this is 1 to 1.2 cm. from the upper border to the vermilion skin-ridge. This is laid off in the center of the lower lip vertically from the vermilion skin ridge to the apex of the inverted Y (Fig. 2). The lateral borders of the flap are usually marked off equidistant from the midpoint of the lip (Fig. 3). This can be varied, if the defect demands it, without altering significantly the manner of closure of the lower lip defect. The trunk and arms of the flap may be adjusted as the defect demands.

Cutting of the flap is facilitated if the free margin is incised first. The distribution of the coronary vessels can be seen and the incision on the attached side governed by their locations with reference to the vermilion. Relatively deep placement of the vessels has been noted in some cases. Had dependence on the usual location of the vessels been relied upon, it is unlikely that sufficient blood supply would have been afforded to the flap. It may be that some of these flaps would survive as free composite grafts, but a reliable blood supply is certainly desirable.

Approximation of the flap to the margins of the defect is effected with 4-0 or 5-0 chromic catgut through the mucosa and muscle and black 6-0 silk



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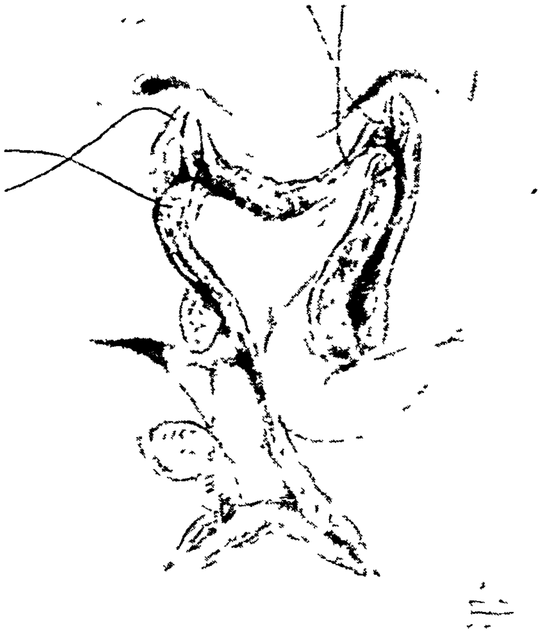

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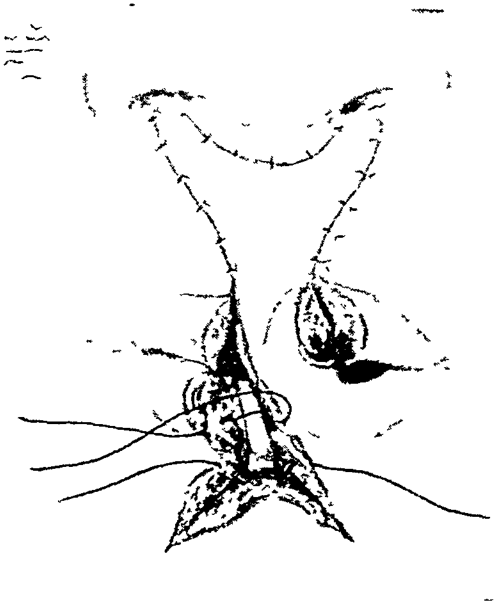

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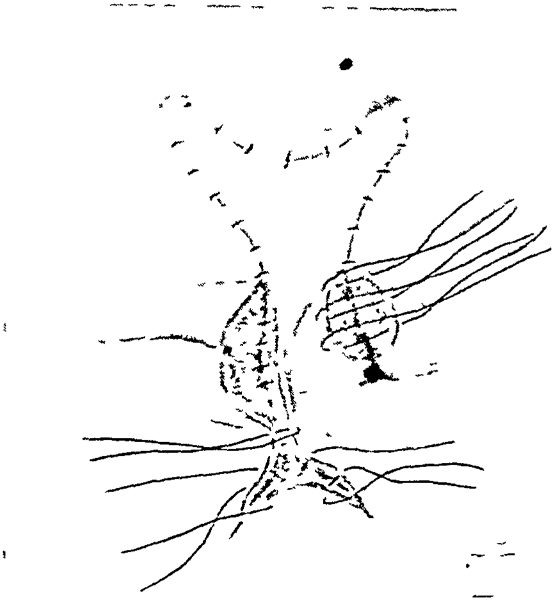
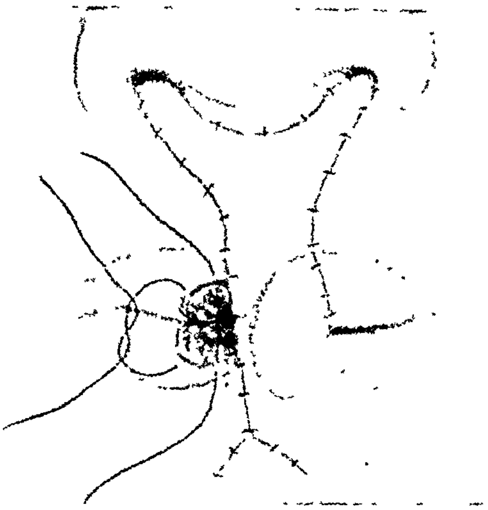


Fig. 6 (see text).

in the skin and vermilion (Fig. 4). No buried sutures are used in the upper lip. The minimum number of ligatures compatible with adequate hemostasis is used.

Similar closure of the lower lip is carried out, with the addition of one or two nylon sutures buried in the muscle (Fig. 5).

At the vermilion border, approximation of the lateral margins to the flap may



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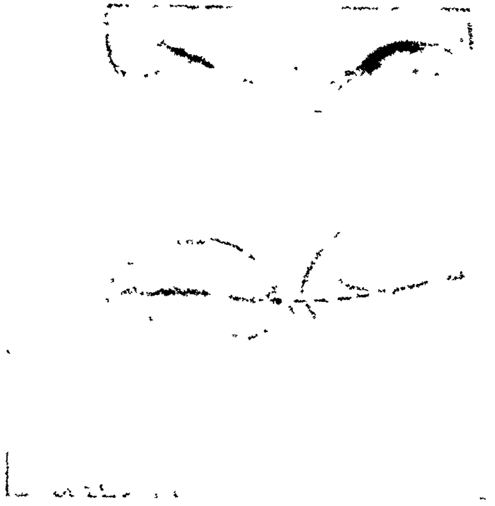

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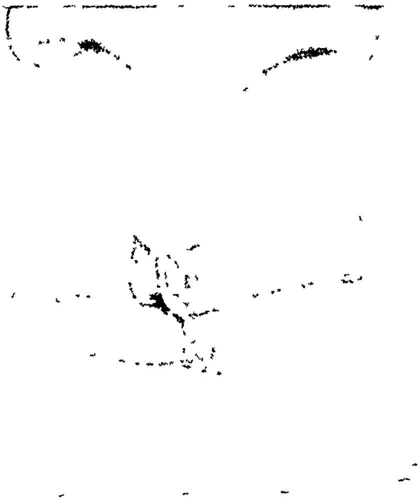

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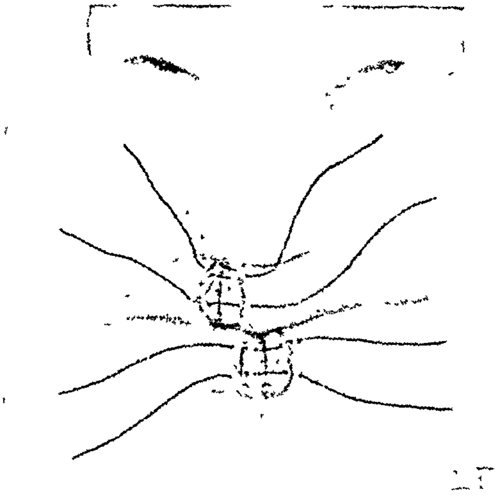

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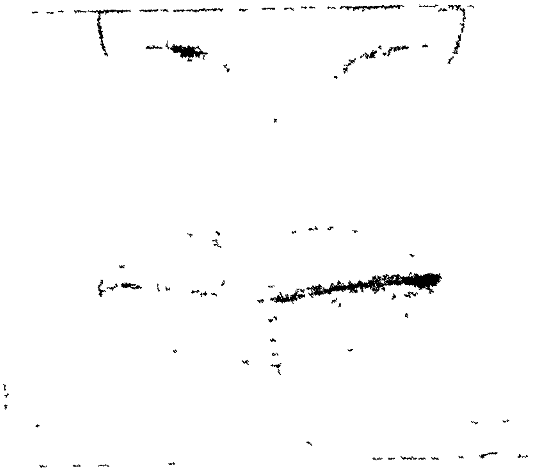

Fig. 11 (see text).

interfere with blood supply (Fig. 6). The lateral margin of the upper lip is sutured to the lateral margin of the lower lip to effect complete closure and prevent strangulation of the pedicle (Fig. 7).

Supportive and protective dressings are applied over the wounds. A 1-inch (2.5 cm.) section of a No. 18 F polyethylene catheter is placed in each angle of the mouth to provide for feeding and an airway.

Division of the pedicle is done fourteen to sixteen days after the first procedure (Fig. 8). Minor adjustment of the pedicle

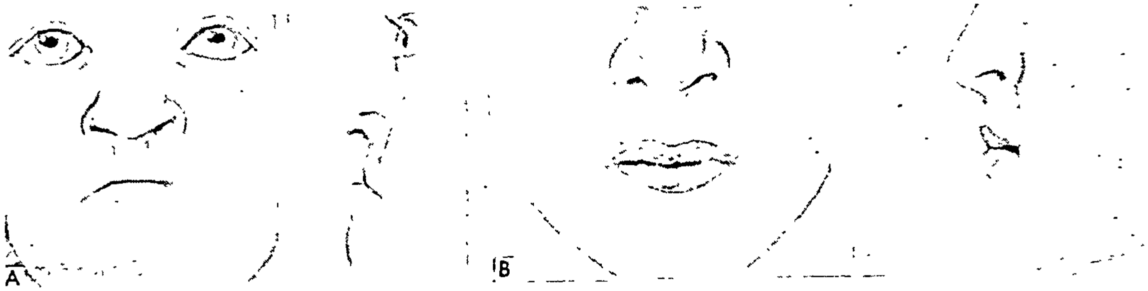

Fig. 12 (see text).

margin is carried out at this time (Figs. 9, 10 and 11). Fig. 12, *A* and *B*, shows preoperative and postoperative conditions.

Adjustment of the alar crura is often indicated. This is best done at a separate operation six to eight months after completion of the cross-lip flap procedure.

Mention has been made that the flap should be kept small, so that the scars will produce the semblance of a philtrum.[3] This is certainly desirable. The balance of the upper and the lower lip and the production of an adequate upper lip, however, must take precedence. Sufficient looseness to permit comfortable accommodation of a denture must be provided in many patients. The flaps do stretch, owing to the pull of the lateral musculature. If insufficient tissue is provided, the lip becomes thin and balance is lost.

RESUMEN

Se presenta en este trabajo una operación para la reparación de defectos centrales del labio superior, valiéndose de un colgajo de labio inferior en forma de Y. Este proceder es particularmente aplicable a los defectos resultantes de tratamiento quirúrgico de heridas en el labio superior bilateral. Se extiende el autor sobre las ventajas de tal procedimiento.

RÉSUMÉ

L'auteur présente une opération pour la réparation de défectuosités centrales de la lèvre supérieure au moyen d'un lambeau en Y prélevé sur la lèvre inférieure. Cette technique s'applique particulièrement aux défectuosités résultant de la réparation d'une fissure bilatérale où le prolabium a été en partie ou totalement supprimé. Les avantages de cette technique sont discutés.

SUMARIO

Apresenta uma operação para reconstruir as falhas centrais do lábio utilisando um retalho em Y prolongado. Aplica-os especialmente aos defeitos da fissura bilateral nos quais parte ou a totalidade do prolabio foi abandonada. Discute as vantagens dêsse método.

ZUSAMMENFASSUNG

Es wird ein Operationsverfahren zur Wiederherstellung von zentralen Defekten der Oberlippe mit Hilfe eines ausgedehnten Y-förmigen Lappens von der Unterlippe beschrieben. Diese Technik eignet sich besonders zur Deckung von Defekten, die nach Operation einer doppelseitigen Hasenscharte entstanden sind, wo das ganze Lippenrot oder ein Teil desselben entfernt worden ist. Die Vorzüge des Verfahrens werden erörtert.

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The Indian Forehead Flap in Reverse

H. W. WILLIAMS, M.D., F.R.C.S. (Edin.), F.I.C.S.

ANAND, KAIRA, INDIA

The forehead flap rhinoplasty is an ancient Indian operation, a modified form of which has wide applicability today. A case is presented in which the procedure was modified to provide immediate lining and coverage of a large defect in a very old patient.

SHIVBEN Motilal came to us first in 1955 with an extensive rodent ulcer which had destroyed the right eye, the eyelids, and part of the cheek and adjacent nose. Operation was performed on April 10, the whole mass being excised in one, leaving an extensive defect that included the entire orbit. A mould of dental compound was covered with a split skin graft of medium thickness, the edge of the defect being sutured to the graft, the sutures left long and subsequently tied over the mould. The mould was removed on the fifth day, revealing a perfect take.

This procedure has great advantages. It is relatively simple, and it does not mask a recurrence as a full flap does. If after a year no sign of recurrence has appeared, definitive surgical reconstructive procedures can be undertaken or a prosthesis made.

I lost sight of this patient for two years, but she made it plain before leaving the hospital that she was well content with the result and had no intention of submitting to a reconstructive operation. When she returned, in 1957, she had a recurrence limited to the nasal edge of the graft. She was treated with roentgen rays (6,000r over a period of twenty-eight days) and again disappeared for a year.

When she returned, on August 31, 1958, there was a roughly circular hole, 1 inch (2.5 cm.) in diameter. This was not radionecrosis but recurrence.

With the patient under general anesthesia the growth was excised widely, including the bony margin on the upper and lateral edges. In view of the width of the hole and the thin grafted skin on the right side, my usual procedure—lining the defect by inverting marginal flaps—was not possible. The patient's age (85) did not encourage me to raise a lined acromiothoracic pedicle, so a typical forehead flap was raised and brought down with full rotation, so that the defect received an epidermal lining and the subcutaneous aspect of the flap was left exposed. A thick split skin graft was cut from the thigh and sutured over the whole area of exposed skull in the normal manner, but a piece was cut sufficient to cover the raw surface of the pedicle already sutured to the nose. This graft "took" completely, and the pedicle was divided on the eighteenth day to complete the repair.

The forehead flap rhinoplasty is one of ancient India's contributions to modern surgery. The first reference to the procedure in Western literature appeared in the Madras Gazette. In the eighteenth century in the original operation, no lining was provided, and the donor area

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From the Salvation Army, Emery Hospital.
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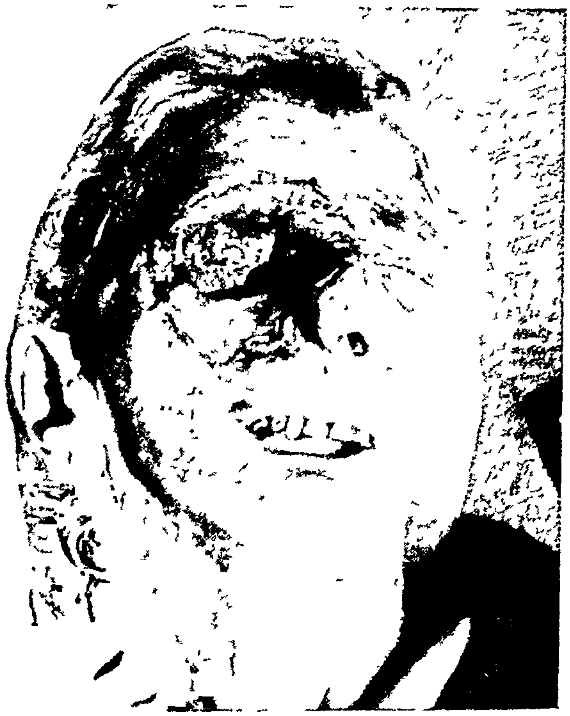

Fig. 1.—Photograph taken in April 1955, ten days after excision of rodent ulcer and immediate split skin grafting.

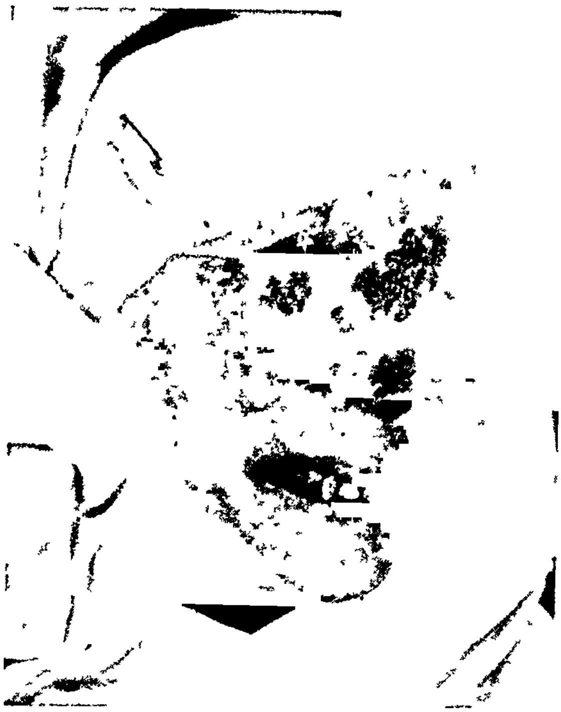

Fig. 2.—Photograph taken in July 1957, showing forehead flap, pedicled and reversed, in nasal defect seven days after operation, showing complete "take" of split skin graft on flap.

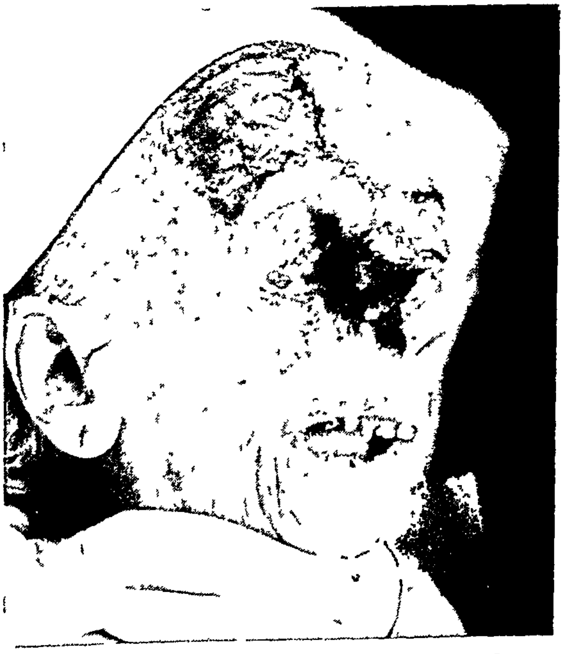

Fig. 3.—Photograph taken eleven days later. Repair completed; remainder of flap returned to forehead, with graft already consolidated in donor area.

on the skull was left to heal by granulation.

Rhinoplasty is a common plastic procedure in this part of India for a number of reasons:

1. A husband may still mutilate his wife for *infidelity*. The husband lands in jail, but the humiliation of the woman is pitiable.

2. Apart from rodent ulcers, partial nasal destruction from syphilitic or pyogenic *infection* still occurs.

3. Leprosy now provides many patients who, cured of the infection, could now return to normal life but for the severe nasal deformity that stigmatizes them.

As performed here, the Indian flap is the procedure of choice because it is the simplest and quickest. In 63 operations performed in this hospital in the past five years not one pedicle has been lost, and the series includes a number in which the skin of the pedicle was already scarred from earlier operations. It has usually been possible to provide a lining by inverting the adjacent skin, and the pedicle, sutured over this, has a very good blood supply and has been divided as early as the tenth day. In this case delay to the eighteenth day was dictated by the precarious blood supply to the rotated flap not sutured to the skin but to the lining. One other variation has been included in the routine; the flap is actually pedicled, and this with grafting of the exposed skull, provides a dry, clean operative site throughout.

Cosmetically the result was surprisingly good, but a younger person might have preferred a postauricular graft at a later date to replace the split skin graft.

SUMMARY

The forehead flap rhinoplasty is an ancient Indian operation, in modified form, of wide applicability today. A case is presented in which the procedure was modified to provide immediate lining and coverage of a large defect in a very old patient.

Author's Note: My thanks are due to Captain K. Tutton, M.S.R., for the clinical photographs presented.

ZUSAMMENFASSUNG

Die Nasenplastik mit einem Hautlappen vom Vorderhaupt ist ein modifiziertes sehr altes Verfahren, das heute in grossem Umfang angewandt wird. Es wird über den Fall eines hochbetagten Patienten berichtet, bei dem die Methode mit gewissen Abwandlungen ausgeführt wurde, um eine sofortige Auskleidung der Nase und die Deckung eines grossen Defekts zu erzielen.

RIASSUNTO

La rinoplastica con lembo frontale è un antico metodo indiano che tuttora gode di largo favore sia pure in forma modificata. Viene presentato un caso in cui si usò questo metodo per ricoprire una vasta perdita di sostanza del naso in un vecchio.

RÉSUMÉ

La rhinoplastie par lambeau frontal est une ancienne opération d'origine indienne qui, modifiée, trouve aujourd'hui une large application. Un cas est présenté, dans lequel la technique a été adaptée à la nécessité de combler une lacune tissulaire chez un patient très âgé.

SUMARIO

O retalho frontal mediano, como antigo metodo Indiano é hoje de larga aceitação. Apresenta um caso em utilisou esse metodo modificado para reparação facial em um velho doente.

RESUMEN

La rinoplastia con colgajo frontal es el clásico método indio, que no modificado sigue eimpeándose hoy día con frecuencia. Se presenta un caso en el que el procedimiento, modificado, permitió reparar satisfactoriamente un defecto nasal muy extenso en una anciano.

* * *

The man who never alters his opinion is like standing water. and breeds reptiles of the mind.

—*Blake*

Proctologic Surgery

Repair of Postoperative Perineal Hernia

Report of a Case

JOHN I. PERL, M.D., F.A.C.S.
CHICAGO, ILLINOIS

A case of postoperative perineal hernia following the Miles operation for carcinoma of the rectum is reported.

The cause of postoperative perineal herniation and the reasons for its relative infrequency are presented.

In accordance with Cattell's recommendation that the coccyx be preserved in situations demanding wide posterior exposure during perineal resection, the longitudinal splitting of the coccyx and its subsequent suture are suggested instead of coccygectomy.

The use of bilateral musculofascial flaps from the gluteus maximus in the repair of postoperative perineal hernia is described with illustrations of the surgical procedure.

THE purpose of this paper is to describe an operative technic used in the repair of a large recurrent postoperative perineal hernia, as well as to present a brief discussion of the prophylaxis and treatment of this relatively infrequent condition.

REPORT OF A CASE

J. W., a 56-year-old man, in 1954 underwent an abdominoperineal resection for a large ulcerating adenocarcinoma of the rectum. During the perineal phase of the operation the coccyx was longitudinally split and subsequently realigned with transversally placed catgut sutures. The perineal wound was packed with a Mikulicz type tampon of plain gauze in a polyethylene dam. The patient had attacks of vomiting and coughing during the first three days of the postoperative period, but the rest of his convalescence was uneventful. Fourteen weeks after the operation he resumed his janitorial duties. He was well and worked steadily until September 1956, when he was readmitted to Augustana Hospital for the repair of a large perineal hernia, which had gradually developed during the previous six months. His general condition was good. Since the operation he had gained weight, and his colostomy functioned well. The hernia was approximately 12 cm. in diameter, and on its dome there was a 2 by 3 cm. ulceration. The hernial contents, evidently loops of bowel, were readily reducible. The patient's only subjective complaints were that: "Things were dropping out below" and that he had a sensation of fullness when sitting or walking.

Operation was performed on September 13. The ulcer, with an elliptic piece of skin from the dome of the hernia, 8 by 11 cm., was excised. The hernial sac was then opened. The herniated loops of small bowel were reduced, and the pelvis and lower part of the abdomen explored. No evidence of metastasis was observed, and the pelvic peritoneum

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was closed with chromic catgut. The lateral rims of the hernial ring were then imbricated, two rows of No. 00 chromic mattress sutures being used. The skin was closed with interrupted silk. The patient made an uneventful recovery and resumed employment. Four months later the hernia recurred; it became so large that sitting was difficult and walking cumbersome.

The patient was readmitted to the hospital on Sept. 8, 1957, for hernial repair. The electrocardiogram, blood pressure, urine and serologic values were normal. The nutritional condition was excellent. The colostomy was functioning well. No abnormalities were observed except the hernia in the posterior perineal area. The hernial bulge, which promptly appeared when the patient assumed the standing position, was the size of a small grapefruit (Fig. 1). It reduced spontaneously when the patient lay prone. Operation was performed on September 10, with sodium-pentothal and nitrous oxide anesthesia. With the patient in the prone jack-knife position, an I-shaped incision was made over the hernia in which the vertical bar of the I was in the midline, the lower horizontal bar at the gluteal folds and the upper horizontal bar at the level of the sacrococcygeal juncture (Fig. 2). Two lateral skin flaps with underlying adipose tissue were developed, with exposure of the hernial ring and the medial half of the gluteus maximus on each side. The hernial sac was then opened; no adhesions were found between the sac and the bowels. The hernial ring was ovoid, longer in the sagittal diameter, wider posteriorly and narrower anteriorly behind the prostate gland. It admitted the examining hand in the accoucheur position. The pelvis and lower part of the abdomen were explored. No masses or enlarged lymph nodes suggestive of metastasis were noted. The sac was excised and the peritoneum imbricated with two rows of interrupted silk sutures. A musculofascial flap was then raised from the left gluteus maximus in such a manner that its pedicle was based on the left side of the hernial ring. The flap was then rotated medially (like turning a page) to cover the defect in the pelvic floor, and, with closely placed mattress sutures of silk, was sewn to the right rim of the cicatricial hernia rim (Fig. 3).

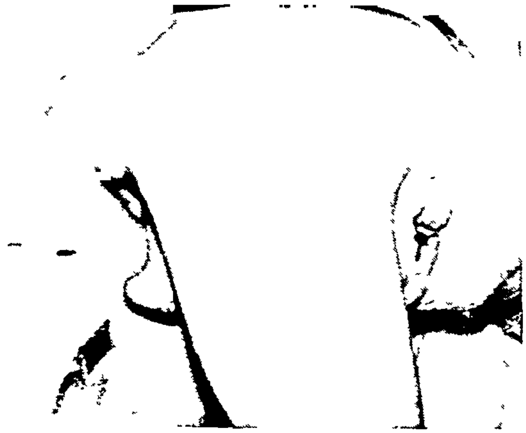

Fig. 1.—Perineal hernia, showing bulge size of small grapefruit.

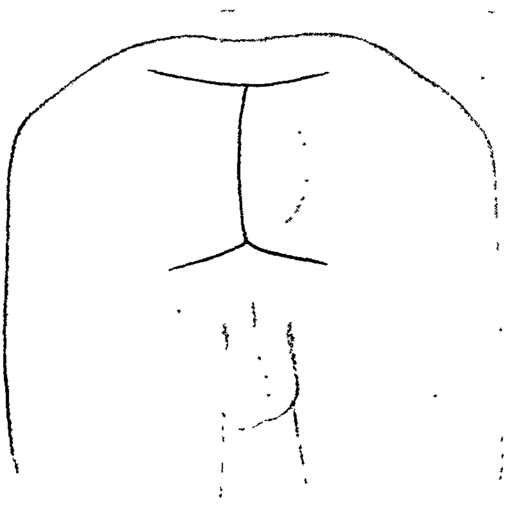

Fig. 2.—I-shaped incision (see text).

On the opposite side, from the right gluteus maximus, a similar broad musculofascial flap was developed with the base arising from the right edge of the hernial ring. This was turned over the first flap, and its edges were anchored with mattress sutures to the base of the left gluteal flap, including the underlying hernial rim (Fig. 4). The skin was closed with interrupted silk sutures. The patient made an uneventful recovery. At the time of writing, twenty-eight months after the operation, he has a strong, tight, flat perineal area that does not bulge on coughing or pushing, even in a squatting position.

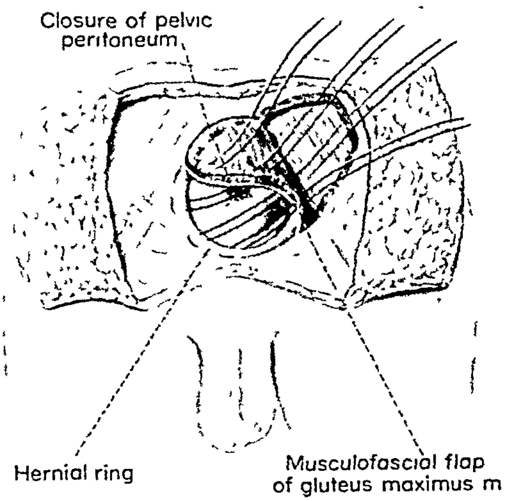
Closure of pelvic peritoneum
Hernial ring
Musculofascial flap of gluteus maximus m

Fig. 3.—Flap rotated medially to cover defect in pelvic floor and sutured to right edge of cicatricial hernial rim.

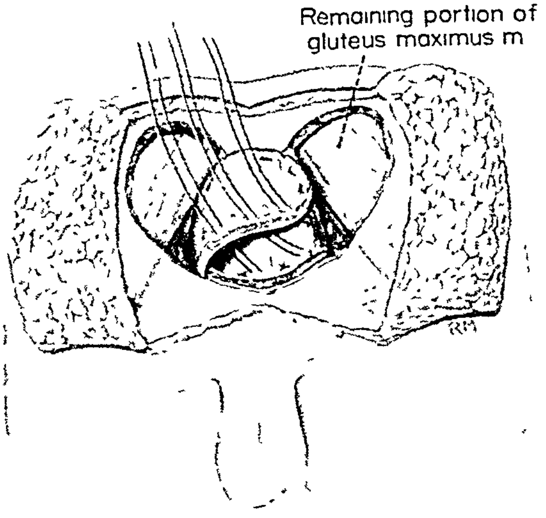

Fig. 4.—Second musculofascial flap from the contralateral gluteus maximus is rotated, imbricated and sutured over first flap (see text).

COMMENT

The principle of wide excision of malignant lesions, when applied in abdominoperineal resection for rectosigmoid carcinoma, requires the sacrifice of some structural elements of the pelvic diaphragm in addition to removal of the involved segment of the bowel. The procedure, although it greatly weakens the pelvic floor, still leaves segments of the pubococcygeus and iliococcygeus muscles attached to the coccyx. These structures, with their fascial coverings, remain as bridgeheads for the postoperative connective tissue growth that fills the space previously occupied by the rectum. When the coccyx is also excised, however, the destruction of the pelvic floor is more nearly complete. The diameter of the otherwise huge wound is enlarged both in the transverse and the sagittal direction. Furthermore, the lateral walls of the cavity are deprived of the levator components that otherwise would remain *in situ* between the pubic ramus and the arcus tendineus anterolaterally and the sacrococcygeal ligament and the coccyx posteriorly.

Thus, removal of the coccygeal segment of the spine eliminates a pivotal structure of the pelvic outlet. As an analogy, damage to the pelvic diaphragm without the removal of the coccyx can be compared to the cutting out of segments of fabric from the canopy of an umbrella. The additional coccygectomy is comparable to destroying the whole central core of the umbrella, spokes, hub and fabric.

With comparable weight and pressure bearing, similar defects in other parts of the body frequently result in hernia formation. The absence of this after perineal excision of the rectum has intrigued surgeons interested in the subject. Even with thousands of operations performed annually for almost half a century, only a small number of postoperative perineal, coccygeoperineal, or sacroperineal hernias has been reported. Explanations offered for the infrequency of this type of hernia in spite of the severe structural insult to the pelvic floor include: (1) massive scar formation in the perineal wound,[1] and (2) light work, sedentary occupation or total disability during the postoperative survival period with little occasion for stress and strain that would increase intra-abdominal pressure.[1] It would seem reasonable to add to these the following explanations:

3. Relatively long bed rest after the operation.

4. The fact that, without a sphincter mechanism at the colostomy, intra-abdominal pressure cannot be increased without the risk of involuntary evacuation of the bowel. The resulting mental hazard of incontinence may discourage heavy physical work even in the otherwise able person.

5. The truss effect of the buttocks, which, by their broadly apposed contact surfaces, support and brace the granulating perineal wound against the abdominopelvic pressure from above. During recovery from perineal resection—that is, until the large posterior cavity is obliterated with connective tissue and the skin has healed—an increased tone of the powerful lateral abductors of the iliofemoral muscle group guards the wound edges against stretching and keeps the gluteal masses in apposition.

On the other hand, the infrequency of these hernias could be only apparent. Cattell[4] encountered only 1 perineal hernia in 800, and T. E. Jones[3] reported one hernia following 300 abdominal perineal resections. Hullsiek,[4] however, after roentgen examination of 41 patients on whom he had performed abdominoperineal resection for carcinoma, discovered 3 definite postoperative perineal hernias. Thus, while the combined total of 1,100 cases of Cattell and T. E. Jones yields an occurrence rate of postoperative perineal hernia of approximately 0.17 per cent, Hullsiek's follow-up study with roentgen examination indicates a much higher level, 7.3 per cent.

Although, on the basis of the foregoing facts, one could question whether the rarity of postoperative perineal hernias is actual or relative, there is little variation of opinion as to what type of prophylactic measures should be taken to prevent this postoperative complication. Cattell's recommendation[2] that the coccyx be preserved is generally accepted. In situations demanding wide posterior exposure of the surgical field, the sagittal splitting of the coccyx and its subsequent suture, the procedure employed in our case can be substituted for coccygectomy. Even without removal of the coccyx, however, the anatomic arrangement of the pelvic floor is so disrupted that only the peritoneum can be utilized to wall off the abdominal cavity from the gaping perineal wound. Therefore, a meticulous suture of the pelvic peritoneum at the conclusion of the abdominal phase of resection is the most important preventive step available. The sutured peritoneum seals off rapidly, and the endopelvic fascia—that is, the subperitoneal areolar tissue, especially if supported from below by correctly placed packing—soon becomes transformed into a thickened, fibrinous exudate and fibroblast-filled structure that will hold, unless exposed to the powerful and sudden thrusts of frequent coughing and vomiting, as occurred in the case here reported. The packing of the large posterior cavity with gauze was, and still is, a preferred procedure with a number of surgeons.[4] Originally it was intended not only to provide counterpressure upon the walls of the cavity in order to reduce and absorb oozing but, by the use of iodoform or vioform gauze, to retard bacterial growth and keep the wound open until its deeper parts were gradually obliterated by granulation tissue. Since the advent of antibiotics, it seems that less importance is given to the packing of the perineal wound. Its omission, with the tendency toward early ambulation, could be a contributing factor in the development of hernias, particularly

in patients who have a low fibroblastic response. In this respect it is perhaps appropriate to recall that the regenerative growth behavior of the connective tissue has a genetically predetermined pattern, with a significant range of variations not only in different persons but in different parts of the body of the same person. This inherited tendency may produce in one patient rapid, abundant fibroblastosis with a subsequent strong, massive cicatrix, and in another patient only a scanty amount of connective tissue growth that yields a *weak, thin, atrophic scar.* Thus, while early ambulation of a patient with a poor fibroblastic response might not weaken a well-closed abdominal wound with its peritoneal, musculofascial and cutaneous rows of sutures, it still might precipitate herniation along the sole pelvic peritoneal suture if the latter lacks the bracing of the exudate-filled retroperitoneal "areolar" tissue and the support of perineal packing. As to other prophylactic steps during the postoperative period, the unclam
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rectal cancer is slowly improving and the surgical treatment of postoperative perineal hernia is also advancing from the former palliative phase into more purposeful procedures to secure better permanent relief. As a result, isolated cases are now being reported in which interposition of the uterus,[2] molded plastic,[6] tantalum mesh,[7] split skin graft,[8] and broad pedicled musculofascial flaps[9] were used to close the hernial defect.

Judgment of the relative merits of *implantation of a foreign body between* the peritoneum and the perineal skin, the main weight-bearing area in the sitting position, as compared to results obtained by the use of the split skin graft and musculofascial flaps, is conjectural in the absence of an adequate number of clinical cases. It stands to reason, however, that the method presented in this paper, namely, *bilateral* broad-pedicled musculofascial flaps imbricated over and sutured to the cica l hernial ring, should give
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3. The use of bilateral musculofascial flaps from the gluteus maximus in the repair of postoperative perineal hernia is described, with illustrations of the surgical procedure.

RÉSUMÉ

Un cas de hernie périnéale postopératoire après une opération de Miles pour carcinome du rectum est décrit.

Les causes et la rareté relative des hernies périnéales postopératoires sont exposées.

Conformément à la recommandation de Cattell de préserver le coccyx dans les cas exigeant une large exposition durant la résection périnéale, l'auteur propose la division longitudinale du coccyx suivie de sa suture, méthode préférable à une coccygotomie.

L'utilisation de lambeaux bilatéraux de fascia du grand fessier pour la réparation des hernies périnéales postopératoires est décrite, avec des illustrations de la technique chirurgicale.

ZUSAMMENFASSUNG

Es wird über einen Fall eines postoperativen Dammbruches nach Ausführung der Milesschen Operation wegen Mastdarmkrebses berichtet.

Die Ursache und das verhältnismässig seltene Vorkommen des postoperativen Dammbruches werden erklärt.

In Übereinstimmung mit Cattell, der in Fällen, die bei perinealer Resektion eine weite hintere Freilegung erfordern, die Erhaltung des Steissbeins empfiehlt, wird an Stelle der Steissbeinresektion die Längsspaltung und anschliessende Zusammennähung des Knochens vorgeschlagen.

Die Verwendung beiderseitiger Muskelfaszienlappen vom Glutaeus maximus bei der Wiederherstellung des postoperativen Dammbruches wird unter Beifügung von Illustrationen des chirurgischen Vorganges beschrieben.

RESUMEN

Se trata de un caso de hernia perineal postoperatoria consecutiva a una operación de Miles por un carcinoma rectal. Se expone una serie de razones en relación con la poca frecuencia de esta herniación perineal postoperatoria. De acuerdo con el consejo de Cattell de conservar el coxis en los casos que requieren amplia exposición al tiempo de la resección perineal propone el autor la sección longitudinal de dicho hueso y la sutura subsiguiente en vez de la coxizectomía. Finalmente se describe con varias ilustraciones el uso de colgajos musculofaciales del glúteo mayor para la reparación de la hernia perineal postoperatoria.

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With regard to treatment, it seems that the relatively short life expectancy after resection of rectal carcinoma probably has had a restraining influence both on the frequency and on the extent of surgical repair of postoperative perineal hernias. The available literature indicates that most of the operations consisted of excision of the sac, suture of the peritoneal defect, sewing together of the hernial ring whenever this was possible, and closure of the skin; a relatively small intervention, which probably sufficed for those with a poor prognosis.[5] With safer and better anesthesia, with more effective pre- and postoperative management, by the use of antimetabolites and antibiotics, and by broader employment of ionizing radiation to combat metastases, the prognosis of rectal cancer is slowly improving and the surgical treatment of postoperative perineal hernia is also advancing from the former palliative phase into more purposeful procedures to secure better permanent relief. As a result, isolated cases are now being reported in which interposition of the uterus,[2] molded plastic,[6] tantalum mesh,[7] split skin graft,[8] and broad pedicled musculofascial flaps[9] were used to close the hernial defect.

Judgment of the relative merits of implantation of a foreign body between the peritoneum and the perineal skin, the main weight-bearing area in the sitting position, as compared to results obtained by the use of the split skin graft and musculofascial flaps, is conjectural in the absence of an adequate number of clinical cases. It stands to reason, however, that the method presented in this paper, namely, *bilateral* broad-pedicled musculofascial flaps imbricated over and sutured to the cicatricial hernial ring, should give stronger and more lasting support than a single musculofascial flap or a devitalized split skin implant. The present status of the patient in the case here reported seems to encourage this assumption, since he has steadily worked as a janitor with no recurrence in twenty-eight months after recovery from the second perineal hernia repair.

SUMMARY

A case of postoperative perineal hernia following the Miles operation for carcinoma of the rectum is reported.

1. The cause and reasons for the relative infrequency of postoperative perineal herniation are presented.

2. In accordance with Cattell's recommendation that the coccyx be preserved

in situations demanding wide posterior exposure during perineal resection, the longitudinal splitting of the coccyx, with its subsequent suture is suggested instead of coccygectomy.

3. The use of bilateral musculofascial flaps from the gluteus maximus in the repair of postoperative perineal hernia is described, with illustrations of the surgical procedure.

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The very surroundings in which he works in the surgical wards must necessarily influence profoundly one whose mind is practical rather than philosophic and whose choice of medicine was not the inevitable result of a spiritual urge. The medical ward is as cheerful as planned environment and the constant efforts of sisters and nurses can make it. Human kindness shines in the mutual help and sympathy of the sick; but the patients are ill, not transiently, but for long periods. Some battle their way to health, some are slowly brought to a condition of tolerable equilibrium, to lapse all too soon after they leave hospital, very many are suffering from incurable, progressive, and often painful diseases. . . .

The surgical ward, on the other hand, is cheerful, happy, often boisterous. The patients are for the most part healthy men and women, whose useful life has suddenly been interrupted by some crisis, some accident or grave infection. The course of action is clear, the treatment definite and immediate, and when it has been effected the crisis is past. The sick man starts to improve and knows that he is getting better. Day by day he sees the time coming nearer when he will be back at his job and living in the old happy surroundings of his home. Overworked, perhaps, and underfed in the past, he revels in the plentiful diet and unaccustomed rest, enjoying them all the more because they bring him back to health. He rejoices himself, and makes it his duty to reassure the fresh arrival, and to cheer the despondent neighbour with good-humoured chaff.

—*Ogilvie*

Traumatic Compression Fractures of the Dorsolumbar Portion of the Spine

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AND
JOHN G. PIERIK, M.D.
PROVIDENCE, RHODE ISLAND

The authors present a study of 159 cases of stable traumatic compression fracture at the Rhode Island Hospital in Providence from 1953 to 1959. The series is analyzed as to age, sex, nature of injury, vertebral body involved and treatment. A comparison is made of results obtained by reduction and immobilization and those obtained by treatment without reduction and with no support on the minimum support required.

SINCE publication of a paper by A. G. Davis in January 1929, in which he described his method of treatment of compression fractures of the spine, it has been our impression that there is a general tendency to treat more and more fractured vertebral bodies without manipulative reduction and without immobilization. Because of this impression we undertook the study of all stable dorsolumbar traumatic compression fractures in patients admitted to the Fracture Service of the Rhode Island Hospital from 1953 through 1957. The analysis of our cases consists of a breakdown into age, sex, occupation, cause of injury, type of treatment used in all the cases and final results obtained in 40 of the cases. Cases of unstable fracture, fracture-dislocation and pathologic fracture, as well as all cases in which there were concomitant lesions of the spinal cord, have been omitted from the study.

Classification.—Fractures of the lumbodorsal vertebral bodies are classified by Watson-Jones both as to direction of violence and as to stability.

1. *Direction of Violence:* A. Wedge compression fractures. These result from falls from heights with the patient landing on his feet or buttocks, so that a vertical compression takes place.

B. Comminuted fractures. These result from heavy weights falling across the shoulders, forcing the spine into acute sudden flexion.

C. Fracture-dislocations. These injuries are caused by sudden blows on the back, causing acute flexion of the spine and at the same time driving the upper part of the spine forward.

2. *Classification as to Stability:* A. Stable. This is the type in which there is no evidence of associated injuries, such as fracture-dislocation or fracture of the laminae, pedicles or spinous processes. There is no evidence of rupture of inter-

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From the Fracture Service, Rhode Island Hospital, Providence.
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spinous ligaments or of the ligaments of the apophysial joints.

B. Unstable. This is the type in which there is evidence of any combination mentioned under *stable*. For the sake of simplicity, we shall refer to the cases in which the patients were treated without reduction and without support or with a simple canvas support as treated by the *functional method*. Those treated with reduction followed by the use of plaster jackets or other types of immobilization will be referred to as treated by the *nonfunctional method*.

Before proceeding to the analytic study of our cases, we should like to mention briefly a few points concerning the basic anatomic aspects of the spine, with particular reference to the dorsolumbar region. As is known to all, the anterior longitudinal ligament runs along the front of the vertebral bodies, while the posterior longitudinal ligament runs on their posterior aspect. The anterior longitudinal ligament is much the stronger of the two. Each vertebra is separated from the one above and below it by the intervertebral disc, in the center of which is located the nucleus pulposus. The intervertebral disc forms about one-fourth of the total length of the spine from the first cervical to the fifth lumbar vertebra. The intervertebral disc serves as a shock absorber and is considered the basis of an adjustable fulcrum. In 1930, Calvay and Gallant reported that the intervertebral disc serves as the fulcrum of spinal movement. Prior to this time it was thought that motion of the spine took place largely at the articular facets. The intervertebral disc is seldom ruptured in compression fractures of the bodies of the vertebrae.

It must also be noted that the average dorsolumbar vertebra is made up of an anterior and a posterior component. The anterior component consists of the body, transverse processes and pedicles; the posterior component, of the laminae and spinous processes. The anterior and posterior components articulate by the superior and inferior facets. In addition to the anterior and posterior longitudinal ligaments, other ligaments that serve to hold the vertebrae together include the ligamentum flavum and the interspinous and supraspinous ligaments. Many sturdy muscles also aid in maintaining the sturdiness of the vertebral column. Although each vertebra is made up basically of the same structures, there does exist a variation of the vertebrae at different levels of the spine. It is important to bear these variations in mind, as it helps in treating fractures that occur at different levels.

Historical Considerations Concerning Treatment.—Prior to 1929, the treatment of compression fractures of the vertebrae consisted essentially of prolonged bed rest, followed by the wearing of braces or casts for long periods. In 1929, as has already been stated, Davis published the famous paper describing his method of reduction of compression fractures by forced hyperextension of the spine, with the patient under general anesthesia, and the application of long plaster shells. In his method of reduction Davis placed considerable emphasis on the great strength of the anterior longitudinal ligament, the fulcrum of the posterior spinal joints, the firm attachment of the intervertebral discs and the density and great resistance of the lateral masses. Davis's method consisted of placing the patient on a suitable table and suspending and pulling his legs, with the knees partially flexed, until the pelvis cleared the table by several inches, and then applying a plaster cast extending from the head to just above the knees.

Shortly thereafter, Watson-Jones described his method of reduction of compressed vertebrae by placing the patient prone between two tables, allowing the dorsolumbar juncture to sag so that the spine would be in hyperextension and then applying a plaster cast. At about the same time, W. A. Rogers described the use of an extension frame for the reduction of vertebral fractures. Also at about the same time, Baker described his method of gradually reducing the compression on a specially constructed frame. This was followed by Webb's paper, published in 1933, in which he described the use of a reverse Gatch bed in the treatment of these types of fracture. Later, a few other types of hyperextension frames were reported as used to accomplish a rapid reduction of the fracture, followed by the immediate application of a hyperextension plaster jacket with the patient's spine in the hyperextended position on the frame. Early ambulation, with the patient's spine maintained in hyperextension by a plaster jacket, was allowed. Still later, some orthopedists began using the Jewett or Baker hyperextension braces instead of plaster jackets. By the middle 1940's the pendulum began swinging away from the long wearing of cumbersome braces and hyperextension plaster jackets, as it was becoming obvious to some students of this type of injury that prolonged immobilization was conducive to stiffness and muscular atrophy resulting in limited motion and pain. Early ambulation without reduction and without support but with early muscle exercise and other forms of physical therapy were tried, with surprisingly good results.

In 1945, E. A. Nicoll in England reported his results in treating compression fractures in coal miners without reduction and without support. The type of treatment advocated by Nicoll consists of putting the patient to bed for one to three weeks with a pillow behind the back but with no attempt to immobilize the spine in any way or to maintain any reduction that may be accomplished. After the acute pain has subsided, the patient turns on his abdomen and practices extension exercises. This is followed by more intensive exercises, which are done in either a physical therapy department or a gymnasium. Nicoll's patients generally recovered sufficiently to be able to return to work in two to three months.

Reasons for No-Reduction, No-Immobilization Type of Treatment.—The advocates of this type of treatment offer the following reasons as to why they favor this form of treatment:

1. Good functional results are generally obtained with compression fractures of the dorsal portion of the spine, in spite of the fact that these fractures cannot be reduced because of their anatomic location and their construction.
2. Initially good reductions of low dorsal and lumbar compression fractures, as shown in roentgenograms, are not maintained, according to late roentgenographic studies. In this type of case it has been noticed that the fracture has a tendency to return to the position of original compression.
3. When late pain makes its appearance, the compressed vertebral body is not necessarily the cause of the pain. While it is true that the severely compressed vertebra could cause stress on its immediate bony anatomic adjuncts, the pain, more often than not, is due to fibrosis leading to stiffness.
4. If fibrosis, contracture and/or stiffness can be prevented, the facets, the longitudinal ligaments and the intervertebral discs can adapt themselves to the compression well enough to prevent the development of pain.

Rhode Island Hospital Cases.—During the years from 1953 through 1957, 159 patients with traumatic stable compression fractures were admitted to the Fracture Service of the Rhode Island Hospital. Eighty-seven of these were private patients, and 72 were service admissions.

Sixty-eight were male and 91 female. The eldest patient was a 94-year-old woman who had fallen down a staircase; the youngest was a 12-year-old boy who had fallen 30 feet from a tree, landing on his feet. Table 1 shows the number of patients treated in the various age groups. It is to be noted that the largest number of patients falls in the age group between 60 and 79 years of age, the total number being 78.

Occupations: Many types of occupation are represented by those who entered our hospital for this particular type of injury. The largest number of patients with compression fractures of the lumbodorsal portion of the spine were housewives, who numbered 60. The next largest group were white-collar workers, who number 24. Laborers fell into the third largest group, which contained 20 patients. The remainder were engaged in miscellaneous occupations (Table 2).

TABLE 1.—*Age Incidence*

Age Group	*No. of Cases*
10-19	4
20-29	8
30-39	11
40-49	18
50-59	23
60-69	38
70-79	40
80-89	14
90-100	3
Total	159

TABLE 2.—*Occupations of Patients*

Occupation	*No.*
Housewife	60
White-collar workers	24
Laborer	20
Carpenter	4
Truck driver	4
Maintenance	4
Nurse	4
Teacher	4
Domestic	4
Miscellaneous	31
Total	159

Etiologic Factors: With regard to the cause of the injury, 24 of our patients stated that they had had a fall from varying heights, landing on their feet, while 19 had fallen from varying heights but landed on the buttocks. Fifty-three stated that they had fallen as a result of tripping or slipping and had landed on the buttocks. Two had fallen from heights, landing on their backs. Four patients had fallen while walking, landing on their backs, and in 14 cases the injury had resulted from motor accidents. We had 34 patients who stated that they had fallen down stairs, but they did not know exactly how the injury to the back had taken place during the fall. Seven reported severe pain in the back while doing heavy lifting in a stooped position. One patient had been in a plane crash, and another had been injured while tobogganing.

Hospitalization Stay:—As to the length of the stay in the hospital, our patients where hospitalized for a total of two thousand, seven hundred and ninety-eight days. The shortest stay was two days; the longest, sixty-three days and the average seventeen days.

Type of Treatment Used: All patients were put to bed for varying periods, depending upon the type of treatment to be used. Fifty-eight were treated initially with flat bed rest for five to ten days, at the end of which time the reverse Gatch bed treatment was started, the patients eventually being allowed up and about wearing a Taylor back brace. Fifteen patients were treated by means of bed

TABLE 3.—*Type of Treatment*

	No.
Bed rest, Gatch bed and Taylor back brace	58
Bed rest and plaster jacket	15
Bed rest, extension frame and plaster jacket	16
Bed rest, Gatch bed and plaster jacket	30
Bed rest and canvas support	11
Bed rest	29
Total	159

TABLE 4.—*Vertebrae Involved*

12th dorsal	43 cases
11th dorsal	24 cases
1st lumbar	49 cases
2d lumbar	22 cases
4th lumbar	22 cases
3d lumbar	19 cases
5th lumbar	10 cases
Fracture of a single vertebra	107 cases
Multiple fractures	52 cases

rest followed by the application of a plaster jacket without any previous attempt at reduction of the fracture, and 16 others, after an initial period of bed rest, were put on Goldthwait extension frames, and after sufficient reduction had been obtained a plaster jacket was applied. Thirty were treated by means of reduction on a reverse Gatch bed followed by immobilization in extension in a plaster jacket. Eleven were treated by initial bed rest followed by the application of a canvas lumbosacral support. No attempt was made to obtain reduction in these patients. Twenty-nine other patients were treated by means of bed rest without reduction and were allowed to be up and about without support as soon as the acute pain had subsided. None of our patients underwent reduction of the compressed vertebra under general anesthesia.

It is to be noted that in 40 of our patients no attempt at reduction was made, although a canvas support was used for 11. In 29 cases no reduction and no support was used.

Vertebrae Involved: As to the vertebrae involved in the dorsal region, the twelfth dorsal vertebra was fractured in 43 instances and the eleventh dorsal vertebra in 24. Fractures of the remaining dorsal vertebrae are listed in Table 4.

In the lumbar region, the first lumbar vertebra was fractured in 49 cases, this particular vertebra being the one most frequently involved, while the second and fourth lumbar vertebrae were fractured in 22 cases each. The third and fifth lumbar vertebrae, respectively, were fractured in 19 and 10 cases each.

One single vertebra was fractured in 107 of our cases. In the remaining 52 there were multiple fractures, ranging from two to nine vertebrae (1 case).

Symptoms and Signs: All of our patients complained of pain in the back. Forty-two also complained of abdominal pain. One hundred and forty-nine had tenderness on palpation in the general region of the fracture, while in 10 no tenderness was elicited. Erector spinae spasm, ranging in severity from minimal to severe, was present in 157. Two presented no evidence whatever of muscle spasm. Twenty-five had some rigidity of the abdomen. Fifteen presented mild distention of the abdomen, and in 2 real ileus actually developed (Table 5).

As has been stated, all patients with severe lesions of the spinal cord were excluded from this study; 4 of our patients, however, had diminished sensation to pinprick in one or both feet; 4 had hyperactive knee or ankle reflexes; 19 had hypoactive knee or ankle reflexes, and 4 had a positive Babinski sign.

Follow-Up Studies.—A serious attempt was made to bring back for reexamination, in August 1959, as many of the surviving patients as possible. Unfortunately we were successful in bringing back only 40 patients for clinical and roentgen reexamination. Of this group, 25 had been treated with initial bed rest, reduction by one method or another and immobilization by different methods. The remainder had been treated by the nonreduction method. The latter group included all cases in which reduction was not attempted, but some of whom were fitted with canvas supports when allowed out of bed. In reviewing the hospital records of these 40 patients it was learned that those treated by the functional method had remained in the hospital an average of nine days less than had those treated by the nonfunctional method.

Final Height of Vertebrae: Of the 25 patients treated by reduction and immobilization, 21 showed a return of the fractured vertebra to the original degree or compression. In these cases, loss of the reduction was complete two years or more after reduction. Three of the patients in this group showed maintenance of the reduction, while 1 actually showed a gain of 0.5 cm. in the anterior height of the fractured vertebra three years after reduction. Of the 15 patients treated by the functional method, 13 showed no change at all in the height of the involved vertebra when comparison was made to the original film. The remaining 2 showed a loss of 0.5 cm. in the height of the fractured vertebra.

Pain: Of the 25 patients treated by reduction and immobilization, 15 had no pain whatever; 6 had mild pain, and 4 had moderate pain. This indicates that in this group, two or more years after the reduction, 40 per cent of the patients still had some degree of pain.

In the group treated functionally, 11 had no pain at all, 2 had mild pain and the remaining 2 had moderate pain. This would seem to indicate that approximately 27 per cent of the patients treated by the functional method still had some pain two or more years after the injury.

Back Supports: In the group treated by the nonfunctional method, 16 were not wearing any form of back support when examined in August 1959. Six stated that they wore canvas back supports; the remaining 3 stated that they used metal back supports in order to get relief from pain. In the group treated by the functional method, 11 stated that they were not wearing any form of support in August 1959, while 2 were wearing a canvas support and the remaining 2 a metal support.

Capacity in Work: In the group treated by the nonfunctional method, 20 patients had returned to their former occupations, while the remainder had changed their occupations to lighter forms of work.

In the functional group, 10 had returned to their former work; 1 was doing his regular work but on a part-time basis because of advancing years, and the remaining 4 had changed their occupations from heavy, laborious work to light forms of work because of back discomfort. This indicates that 80 per cent of those treated by the nonfunctional method had returned to their former work eight months to two

TABLE 5.—*Symptoms and Signs*

Back pain	159
Back and abdominal pain	42
Back tenderness	149
No back tenderness	10
Back muscle spasm	157
No muscle spasm	2
Abdominal rigidity	25
Mild abdominal distention	15
Ileus	2
Changes in reflexes and sensation	4

years after the injury. In the group treated by the functional method, about 72 per cent had returned to their former work two to six months after the injury. In analyzing the working capacity of these two groups, it would seem that a larger group of those treated by the non-functional method returned to their former work; they were unable to resume this work, however, for a much longer period than those treated by the functional method.

Nonworking Activities: All of the patients in the nonfunctional group had returned to their former activities except 15 who had given up playing football; another gave up swimming, and a third gave up bowling. In the group treated by the functional method, 13 had returned to their former full activities and 2 to limited activities.

No attempt was made to test the degree of motion. It was our opinion that nothing was to be gained by doing this, since the patients were in such different age groups; also, the examiners had no yardstick for comparison, as they had not had the opportunity to examine these patients prior to the original injury. Practically all of the patients who complained of residual pain had some degree of muscle spasm, varying from mild to moderate. In these patients we found residual tenderness over the involved fracture site in only 3 cases.

SUMMARY

A study of 159 cases of stable traumatic compression fractures, in which the patients were admitted to the Rhode Island Hospital in Providence, from 1953 to 1959, has been made. Of the 159 cases, 40 patients were reappraised two to seven years after the initial trauma.

A breakdown of the total number of patients admitted is made as to age, sex, nature of injury, vertebral body involved, symptoms and signs presented and form of treatment used. In 40 cases a comparison of the results obtained is made between a group treated by reduction and immobilization and another group treated by no reduction, no support or minimal support.

Conclusions:—1. Patients treated by the functional method remained in the hospital for a shorter period than did those treated by the nonfunctional method.

2. Patients treated by the functional method returned to work sooner than did those treated by the nonfunctional method.

3. In a large number of patients treated by the reduction-immobilization method the compressed fractured vertebra settled to the position of original impaction two to seven years after the original injury.

4. The majority of the patients returned to their former occupations regardless of the type of treatment chosen.

5. In the lumbar portion of the spine, the first lumbar vertebra was injured most frequently, while in the dorsal segment the twelfth dorsal vertebra was the one most commonly injured.

ZUSAMMENFASSUNG

Es liegt eine Untersuchung von 159 Kranken mit traumatischen Kompressionsfrakturen der Wirbelsäule vor, die von 1953 bis 1959 im Rhode Island Hospital in Providence aufgenommen wurden. 40 dieser Kranken wurden zwei bis sieben Jahre nach der ursprünglichen Verletzung einer Nachprüfung unterzogen.

Die Gesamtzahl der aufgenommenen Kranken wurde nach Alter, Geschlecht, Art der Verletzung, beteiligtem Wirbelkörper, aufgetretenen Beschwerden und Krankheitszeichen und nach Form der Behandlung eingeteilt. Bei 40 Kranken wurde ein Vergleich der Behandlungsresultate zwischen einer Gruppe, bei der Einrichtung des Bruches und Ruhigstellung angewendet worden war, und einer

anderen, bei denen keine Einrichtung des Bruches und keine oder nur geringe Stützung angewendet wurde, vorgenommen.

Schlussfolgerungen: 1. Die Kranken, die mit funktionellem Verfahren behandelt wurden, verblieben für einen kürzeren Zeitraum im Krankenhaus als die, die mit nicht funktionellem Verfahren behandelt wurden.

2. Die Kranken, die mit funktionellem Verfahren behandelt wurden, kehrten schneller zur Arbeit zurück als die mit nicht funktionellem Verfahren behandelten.

3. Bei einer grossen Zahl von mit Einrichtung des Bruches und Ruhigstellung behandelten Kranken heilte der Kompressionsbruch des Wirbels in der ursprünglichen eingekeilten Stellung innerhalb von zwei bis sieben Jahren nach der Verletzung.

4. Ohne Rücksicht auf die Form der durchgeführten Behandlung kehrte die Mehrzahl der Kranken zu ihren früheren Beschäftigungen zurück.

5. In der Lendenwirbelsäule war der erste Wirbel am häufigsten verletzt, in der Brustwirbelsäule der zwölfte.

RÉSUMÉ

L'auteur présente les résultats de l'étude de 159 cas de fractures par compression admis au Rhode Island Hospital, Providence, de 1953 à 1959. Sur ces 159 cas quarante ont subi de nouveaux contrôles de 2 à 7 ans après l'accident.

Une analyse est faite concernant la totalité des malades hospitalisés quant à l'âge, au sexe, à la nature de la lésion, aux corps vertébraux impliqués, aux symptômes et aux signes présentés et à la forme de traitement appliquée. Dans 40 cas une comparaison est faite entre les résultats obtenus dans un premier groupe traité par réduction et immobilisation, et un autre groupe traité par réduction, sans support ou avec un support léger.

Conclusions:

1. Les cas traités par la méthode fonctionnelle ont subi un temps d'hospitalisation plus court que ceux traités par la méthode non fonctionnelle.

2. Les malades traités par la méthode fonctionnelle ont pu reprendre leur travail plus tôt que ceux traités par la méthode non fonctionnelle.

3. Dans un grande nombre de cas traités par la méthode de réduction-immobilisation, la vertèbre impliquée a retrouvé sa position initiale.

4. La majorité des malades ont repris leurs occupations antérieures, quelle que soit la méthode de traitement choisie.

5. Dans la région lombaire c'est la première vertèbre lombaire qui était atteinte le plus souvent, alors que dans la région dorsale, c'est la 12ème vertèbre dorsale qui était le plus souvent lésée.

RESUMEN

Se trata de un estudio sobre 1959 casos de fracturas traumáticas por compresión de la columna vertebraladmitidas en el Hospital de Rhode Island de Providencia de 1.953 a 1.959. De los 159 acsos cuarenta se presentaron de dos a tres años después de ocurrido el trauma originario.

De estos lesionados se ha hecho un estudio minucioso de la edad, sexo, tipo de lesión, cuerpo vertebral afectado, síntomas y forma de tratamiento. En cuarenta casos se pudo hacer una comparación de los resultados obtenidosen un grupo tratado por reducción e inmovilización y otro tratado sin reducción y sin fijación o practicamente sin ella.

Conclusiones: 1. Los lesionados tratados por el método funcional permanecen en el hospital un tiempo mas corto que los tratados por el procedimiento no funcional.

2. Los tratados por el método funcional son los que antes pueden reanudar su trabajo.

3. En gran número de lesionados tratados por el método de reducción e inmovilización la vértebra fracturada se mantiene en la posición original de impactación dos a siete años de ocurrido el traumatismo. La mayor parte de los fracturados se reincorporan a su trabajo cualquiera que haya sido el tratamiento empleado.

4. En la región lumbar la primera vértebra es la mas frecuentemente fracturada, siéndolo la doceava en la región dorsal.

SUMARIO

Faz um estudo de 159 casos de fraturas por compressão em que os doentes admitidos no Rhode Island Hospital, de Providence, evoluiram de 1953 a 1959. Deoses casos 40 pacientes foram revistos de dois a sete anos após o trauma inicial. Examina os casos pelo sexo, naturesa dalesão, corpo vertebral comprometido. Sintomas e sinais e forma de tratamento. Em 40 casos estabelece uma comparação de resultados. Entre o grupo tratado pela redução e imobilisação com outro sem redução e sem imobilisação.

Conclusões:

1. Os doentes tratados pelo método funcional ficaram no hospital um periodo menor que os outros.

2. Os tratados pelo processo funcional voltaram mais cêdo ao trabalho.

3. Nos doentes tratados pela redução-imobilisação a vertebra fraturada retornou ao ponto de impactação 2 a 7 anos depois da lesão.

4. A mioria dos doentes voltou ao ritimo normal de trabalho em ambas as formas de tratamento.

5. A primeira lombar foi mais atingida que as outras emquanto que a 12a. dorsal foi a mais comumente atingida nesse segmento.

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The singular fact of persons, more especially individuals who were in the habit of indulging in the use of spirituous liquors, having taken fire and been consumed, is authenticated beyond the slightest doubt. . . . The celebrated Le Cat mentions a woman of Rheims. of the name of Millet. who was found consumed at the distance of two feet from her chimney: the room exhibited no appearance of fire. but of the unfortunate sufferer nothing was found except her skull. the bones of the lower extremities. and some vertebrae.

Seccão em Portuguéz

Correção Cirurgica do Mento Hipogeniótico

(Surgical Correction of Deformity of the Chin)

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SAO PAULO, BRAZIL

An anthropologic study of the chin is presented, with theories concerning its formation and a proposal for its anatomic delimitation. For deformities that do not include malocclusive defects but present only cosmetic and psychic problems, the author uses osseous autografts introduced by the oral approach. He has found the results gratifying, and the advantages of such grafts are outlined.

EMBORA tenha Linneu[1] caracterizado o Homem como o "animal com projeção na frente do maxilar inferior," essa entidade estrutural adquiriu importância do ponto de vista antropológico com a descoberta do fóssil-mandibula de La Naulette, em 1866. Sôbre tal achado, expressou Boule[1] não haver duvida que a Ciência se defrntava com uma notavel descoberta, cujo "significado do ponto de vista de hierarquia morfológica no grupo dos Primatas, não permitia discussão." Broca[4] valorisou a descoberta, à ponto de afirmar ser a mandibula de La Naulette "o primeiro fáto que fornecia um argumento anatômico aos darwinistas e também o primeiro élo que fazia ligar o Homem ao macaco."

Cada novo aparecimento de fóssil primata, trouxe exaustivos estudos e polêmicas, algumas até famosas, sôbre o enigma do mento e seu significado filogenético.

Com o entusiasmo despertado pela identificação dos centros corticais da linguagem, por Broca, os estudiósos do assunto e principalmente os antropologistas passaram a atribuir a configuração do mento como intimamente dependente da influência da linguagem falada, e por consequência elemento indicativo da evolução das raças. Alguns antropologistas foram ainda mais longe nessa ordem de idéias, relacionando a forma do mento à evolução da inteligência. Porção saliente da face, tem impôrtante papel na sua composição harmonica, principalmente quando encarado o individuo, de perfil.

O mento hipogeniótico ou fugidio dá ao seu portador o chamado "perfil de passaro" ou de "peixe," que embora não o afete organicamente, provoca como é natural uma serie de inibições e conflitos psiquicos, que interferem no seu comportamento social.

A essencia dos fenômenos determinantes da estrutura do mento e consequentemente de sua forma permanece obscura, apesar do sem número de teorias aparecidas. De uma maneira resumida cinco são as mais importantes e plausiveis, tendo cada uma delas seus adéptos.

A. *Teoria de deslisamento.*—Essa teoria

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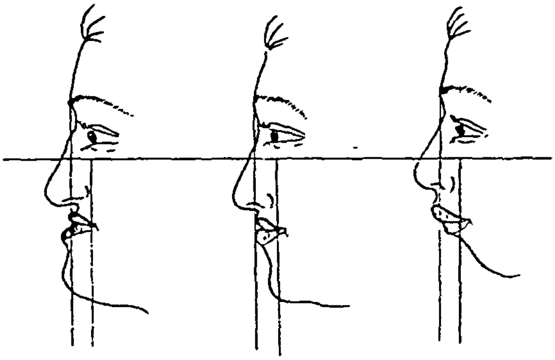

Fig. 1

compléxa se baseia na "Fetalisationstheorie" de Bolk.[4]

No homem, devido a retardo na saida do arranjo fetal, os elementos dentarios parecem crescer tão relutantemente, que a porção basilar da mandibula deslisaria anteriormente, sob a parte alveolar. O deslisamento daria lugar ao mento. No símio ao contrário, uma aceleração no desenvolvimento dentário, estabeléce uma projeção acentuada de tôda a dentadura e o mento tornase ageniótico.

Além das inúmeras objeções feitas a essa teoria quasi mística e de ilações de idéias muito complicadas, é que, o procésso de deslisamento não se compreende em tecido aposicional com é o caso do osso mandibular.

B. *Efeito da linguagem falada.*—A habilidade de falar, tem sido para muitos, intimamente relacionada ao destino do Homem. Enqanto Broca determina no neuro-crânio, o centro da fonação, outros visualisaram essa projeção do ego, na forma do monto.

Com o uso crescente, pela evolução, da palavra e afim de acomodar a lingua, pelas pressões exercidas por essa sôbre a sinfise, o mento ter-se-ia desenvolvido, enquanto que outras partes teriam sofrido involuções. Vários dados anatômicos confirmam em parte, essa teoria. Cortes anatômicos sagitais da língua, na origem sinfisiana, mostram prolongamentos ósseos que vão desde sua ancoragem até a parede cortical externa do mento. O estudo radiológico feito em macacos e no homem confirmam esse achado. Seria portanto o musculo genioglosso, o responsavel pelo desenvolvimento mentoniano. Realmente, no procésso evolutivo, partindo dos primatas "inferiores" a língua longa e chata parece ter cedido lugar à língua humana convexa e encorpada. Mas, seria sómente esse pequeno musculo capaz de influenciar e remodelar um osso relativamente espesso? Outro argumento parece afastar essa possibilidade, é o do arranjo trabecular notavelmente constante em tôda a série mamaliana, conforme observação de Weidenreich.[4]

C. *Efeito da ação dos musculos da bóca.*—É ponto pacifico em Anatômia, a influência que certos musculos exercem sôbre os óssos seja na sua forma global, seja sob a forma de relêvos. Não conseguiram porém os AA, adéptos dessa teoria provar a contento a relação da forma do mento e a dinâmica muscular da face.

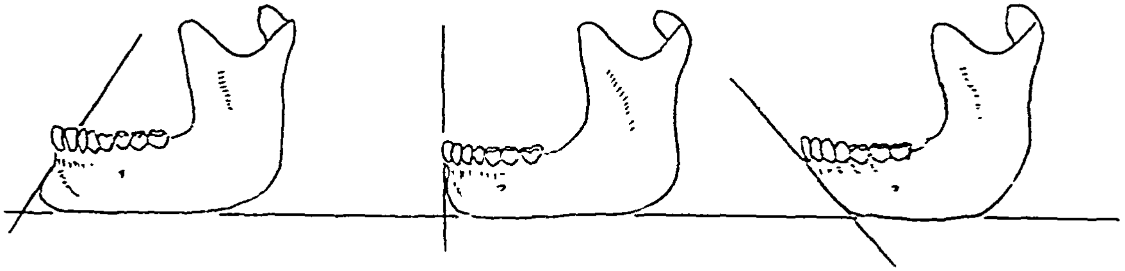

Fig. 2.

Fig. 3.—Antes e após a correção cirurgica. Mento hipogeniótico devido á traumatismo sofiido em periodo de desenvolvimento.

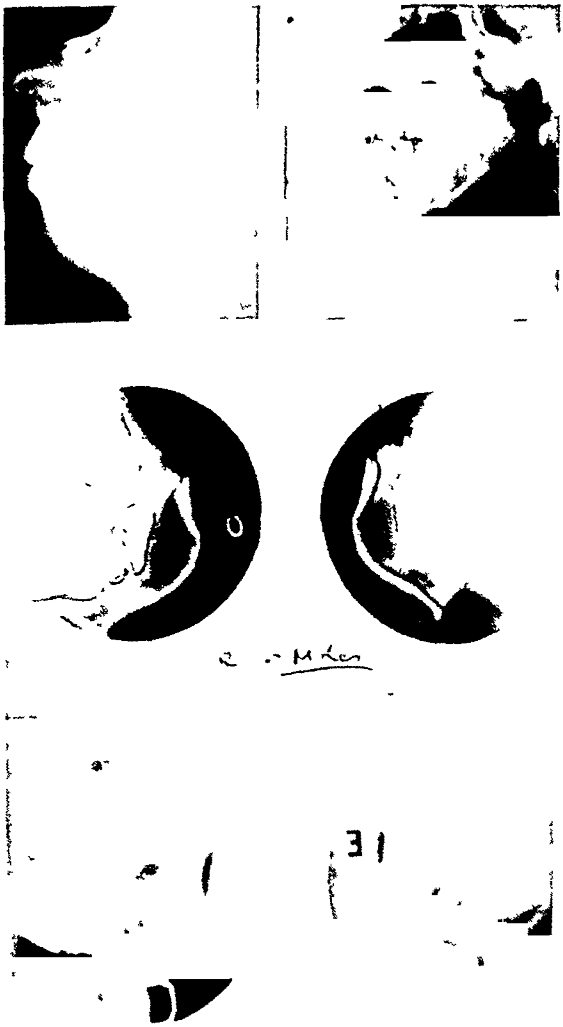

Fig. 4.—Estudo radiológico do caso da fig. anterior, mostrando o enxerto ósseo.

Grunewald[4] estudando a ação dos musculos *pterigoideos* externos observou que a resultante da composição de fôrças da atividade desses musculos se faz sentir na sínfise. Teria isso como consequência um refôrço ósseo na região mentoniana.

D. *Retrusão maxilar e Redução.* — Weidenreich[4] parte da premissa de que a mandibula ou mais propriamente o mento, é a resultante da coalescência de dois blócos embriogenicos, simétricos—"mentum osseum," que avançando se poem em contácto em tôda a altura da sínfise. A extremidade superior (alveolar) teria projeção mais anterior, dando a idéia de quina de barco.

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Considerações Anatômicas.—Traçando-se duas linhas perpendiculares ao plano horizontal (Frankfort) tangenciando a primeira, a glabela e a outra partindo do ponto orbital (linhas de Izard e Simon), poderemos delimitar a posição estética do perfil mentoniano. Normalmente, déve este se situar entre as duas linhas. Quando o contorno do queixo se desenha para traz da linha frontal posterior estaremos na presença do chamado "perfil de pássaro" ou mento fugidio ou ainda micro ou hipogeniótico (Fig. 1).

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Uma classificação bastante difundida é a de macro e micrognatias. O termo gnathos refere-se porém, à mandibula como um tôdo e frequentemente envolve outras estruturas estando quasi sempre associados problemas de oclusão dentária.

Considerando o mento uma entidade independente, para facilidade de estudo, propômos sua definição anatômica, baseados em alguns acidentes, e delimitando-o da seguinte maneira: partindo dos incisivos, dirigem-se para baixo, e para fóra, duas incisuras chamadas por Klaatsch, de "impressio sub-incisiva" e por Virchow de "incuravatio-mandibularis," que atingem o tuberculo mentoniano. Prolongando-se a trajetória das incisuras até o rebordo inferior da mandibula e, levantando desses pontos, duas perpendiculares, teremos delimitado anâtomicamente o mento.

Técnica Cirurgica.—Afim de dar maior projeção à região, introdusimos enxerto ósseo autogeno. É esse introdusido por via oral e apôsto subperiostalmente à mandibula, segundo técnica preconisada por Converse.[2]

Outra via de acésso que póde ser utilizada é a do sulco submentoniano, que apresenta porém o inconveniênte da cicatriz remanescente, que apesar de tôdo o cuidado póde se tornar visivel. Outra vantagem da via oral está no fáto do en-

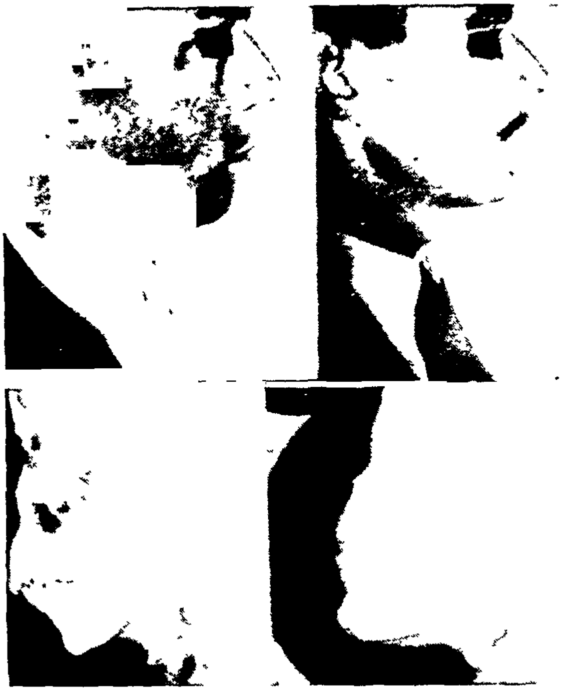

Fig. 5.—Pequeno defeito estético do mento. Contrôle radiologico.

Fig. 6.—Disostose mandibular. Antes e após a inserção do enxerto. Contrôle radiológico (3 meses a pós).

Fig. 3.—Antes e após a correção cirurgica. Mento hipogeniótico devido á traumatismo sofrido em periodo de desenvolvimento.

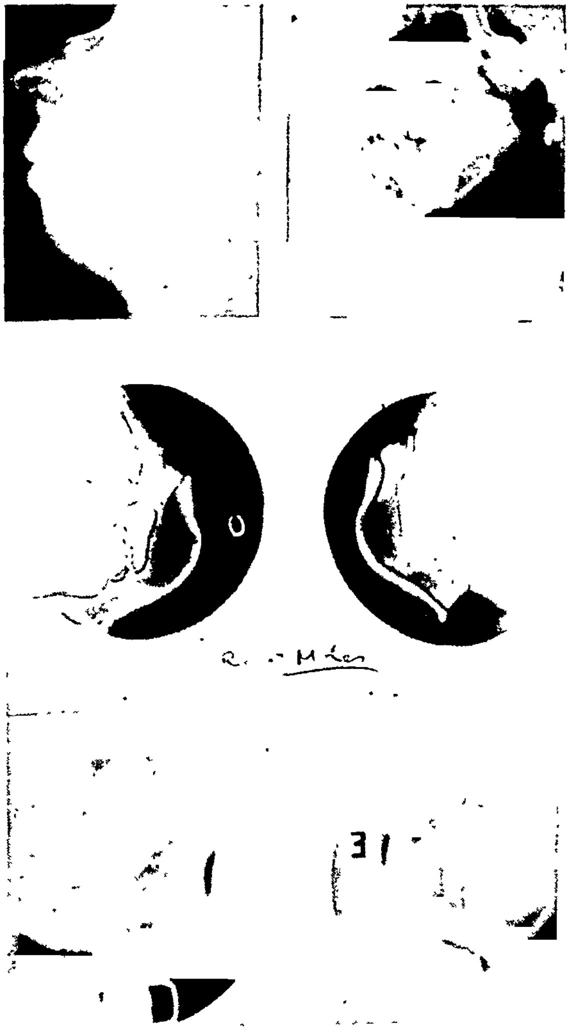

Fig. 4.—Estudo radiológico do caso da fig. anterior, mostrando o enxerto ósseo.

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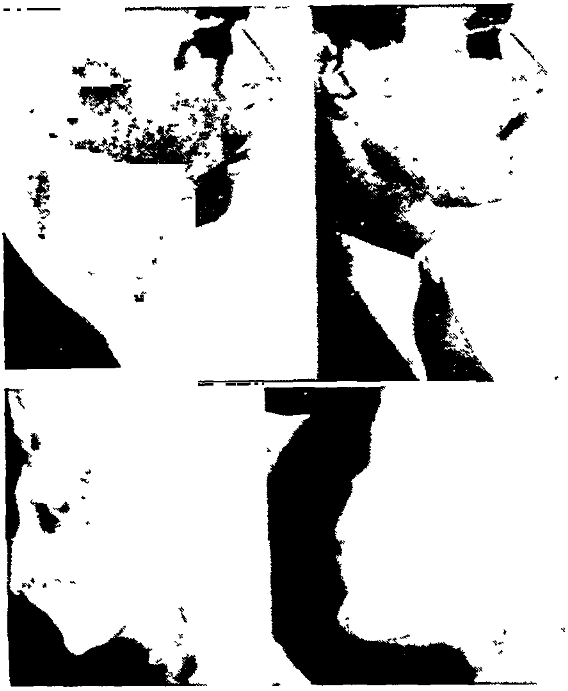

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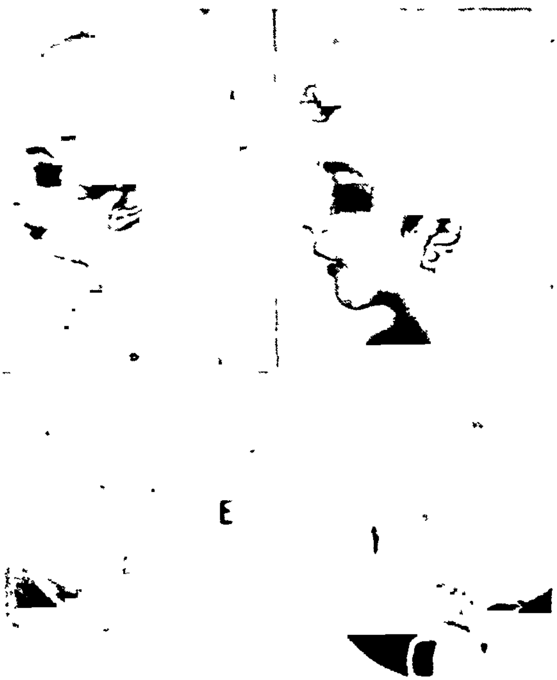

Fig. 6.—Disostose mandibular. Antes e após a inserção do enxerto. Contrôle radiológico (3 mêses a pós).

xerto não repousar sôbre a sutura da via de acésso, como é o caso da via externa.

A incisão é feita na mucósa labial para cima do sulco vestibular, passa sôbre a frenulo não atingindo o sulco gingivolabial. A mucósa é descolada do musculo orbicular até se atingir o osso. As partes moles pré-mandibulares juntamente com o periosteo são descolados, e o enxerto depois de modelado é aposto à mandibula.

A mucósa é suturada fazendo-se em seguida, contenção externa por cerca de 15 dias. O enxerto ósseo que utilisamos é retirado da crista ilíaca e modelado em monoblóco. Presta-se esse osso, não só pela sua consistência esponjósa, como pela sua posição, permitindo que a cicatriz cutânea se esconda sob a vestimenta.

Após o primeiro âno notamos uma perda de cerca de 10% do volume enxertado. Os resultados são compensadores do ponto de vista estético.

Apresentamos 3 casos, de mento hipogeniótico dos quais 2 de origem congênita, sendo 1 de disostose mandibulo-facial.[5] O 3° caso (Fig. 3) foi consequência de trauma e consolidação viciósa.

RESUMO

Após estudar a importância do mento do ponto de vista antropológico, apresentam os AA. as varias teorias que tentam explicar as razões de sua forma, e respectiva crítica.

Técem considerações de origem anatômica e propõem uma delimitação da região. Dão preferência ao termo hipogeniótico por se tratar de deformidade que diz respeito sómente ao mento não havendo defeitos de oclusão dentária, mas sómente problemas estético psicológico para o seu portador.

A correção é feita pela introdução de auto-enxerto ósseo por via oral, cujas vantagens são apresentadas.

Observaram a perda de cerca de 10% do volume enxertado após um âno.

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* * *

Fame is the *inheritance not* of the dead, but of the living. It is we who look back with lofty pride to the great names of antiquity, who drink of that flood of glory as of a river, *and refresh* our wings in it for future flight.

It is well that there is no one without a fault, for he would not have a friend in the world. He would seem to belong to a *different species*.

If the world were good for nothing else, it is a fine subject for speculation.

—*Hazlitt*

Editorials

The Physician as Book Collector

Notes on Famous Libraries

HERMAN H. HENKLE

CHICAGO, ILLINOIS

> "... *there is no science which has not its beginning from foregoing knowledge* ..."

THIS statement was made by William Harvey in one of the communications addressed to John Riolan, published in 1653 with the first English Translation of his *De motu cordis* (*The Anatomical Exercises of Dr. William Harvey Concerning the Motion of the Heart and Blood*). This was Harvey's assessment of the extent to which each researcher is indebted to the men who have worked before him. It is a succinct expression of the cumulative character of scientific knowledge.

Many great and inventive men have known that in order to push farther out the frontier of knowledge they must take account of what has gone before. Thomas Edison once said, "I begin where the last man left off." For Harvey or Edison to generate new knowledge or to invent new devices, it was necessary for them to know about the research already completed by other men.

Fortunately it was not necessary, and in any case it was not possible, for them to ascertain "foregoing knowledge" by consultation with all of the men who had information relevant to the areas of their research interests. No doubt they did learn much from personal consultation with some of their contemporaries, as do most men occupied with scientific research and development; but they also used books and libraries, as was evidenced by the references in their own writings.

During the months of 1960 and as long thereafter as possible, the editorial pages of the Journal of the International College of Surgeons will be honored by presentations of rare and extraordinary historic value, the lectures presented at the International Surgeons' Hall of Fame on medical and surgical history from the earliest recorded achievements to those of our own times. We believe that Journal readers who were not able to attend the lectures will find them as exciting as did the audiences present at their delivery. The story of progress in the healing arts and the giants of medicine and surgery to whom we owe the amazing brilliance and scope of modern achievements is intrinsically thrilling and is a vital part of the education of every cultivated man and woman, inside or outside the profession. It is altogether fitting that it should appear in these pages, since the International College of Surgeons is first, last and always a teaching institution.

In the history of science, the physician has always played an important role—not only in medicine but in all of the natural sciences. The first professional group in the world of science were the physicians. The first academic acknowledgment of the importance of science was the "faculty of medicine" in the early universities. One of the consequences was that many of the pioneers in biology and chemistry and physics were physicians. Another was that a high proportion of early scientific publications was in the field of medicine and its closely related disciplines. Still another was that the first scientific periodicals devoted to one field of science were medical periodicals. And still another was that the first collectors of scientific libraries were, for the most part, physicians.

The large and comprehensive research library is a relatively modern institution. A contributing factor is probably the fact that the exponential proliferation of scientific literature is a fairly recent phenomenon. There was a time when it was possible for an individual scientist to gather in his own home or study the principal part of the literature necessary to give him that essential "foregoing knowledge." Even as late as the mid-eighteenth century the number of scientific periodicals of principal importance was not beyond the collecting capacity of a physician or a scientist with the means to acquire them.

It is not surprising then, that the private collector in the earlier years played an exceedingly important role in the collecting and preserving of the record of scientific and medical progress, but his successor also, in more recent times, has been in a strategic position to contribute to the development of library resources, in the broadest meaning of the term. As the volume of literature has grown faster than the capacity of institutional libraries to collect comprehensively and at the same time intensively in special fields, the role played by the private collector has been the development of specialized collections for which a high degree of expert knowledge is necessary to the selection of important books.

It should, therefore, be not only interesting but profitable to review the contributions made to cultural history by the physician as book collector.

The intention in presenting this paper is not to offer scholarly data based on carefully documented research. Rather, I should like to share with my readers some of the impressions I have gained from working—I might say living—in libraries. It has been my good fortune to handle thousands of volumes from our rich heritage of printed books from the past five hundred years. And I have often perused and sometimes read from them as they passed by.

Just handling the scientific and medical classics of the past can be a worth while experience if one is in tune with the march of history. An old teacher of mine, the late Pierce Butler, once said: "The appearance of a book is an intellectual event." At any moment I may hold in my hand the best product of the mind of a man—a work whose publication broke through the time barrier. Over the span of three hundred and thirty years, William Harvey still speaks to us in clear, expository English. Of course, he first recorded what he had to say in—we will assume—clear, expository Latin. But whether or not an author speaks in a language all can understand, he speaks; and that is one of the wonders of the book.

One of the incidental delights of the mere handling of old books is to note the names of former owners. I must admit to a special feeling of warmth when I see the neat little bookplate of Herbert McClean Evans or the signature of Charles Singer in one of the books in our library. Evans is the godfather of my interest in the history of medicine, and

Charles Singer is the most stimulating teacher under whom I ever studied.

Sometimes the provenance of a particular copy of a book may have practical importance to a library. For example, when we were offered a copy of the first edition (1628) of Harvey's *De motu cordis*, among the questions needing answers, was this: Is the copy authentic, and is it coming our way by honorable means? When we were informed that the copy offered was the Dr. McGraw copy recorded in the standard bibliography of Harvey by Geoffrey Keynes, and that the route of transit was honorable, we quickly made the purchase with funds put in our hands by an understanding donor.

But always the sign of former ownership adds flavor to a book. In my personal library I have a small book by Samuel Bowles, *The Switzerland of America*, which he published after a summer vacation in the parks and mountains of Colorado in 1869. On the front flyleaf is the inscription: "Hon. J. C. Dow, Esq. M. C., from Pat. Hooley, County Kerry, Ireland" (without punctuation). My enjoyment of that little book was increased by the knowledge that Pat Hooley of Ireland had thought it a suitable gift for the Hon. J. C. Dow. We speak of this as association value. It is partly based on sentiment. A book should belong to someone. Until someone puts his personal brand on the book it's a maverick. But when the brand is there, it becomes a personal bond between one owner and another.

Sometimes, of course, an earlier owner may leave his signature without his name. Once, collating some of the anatomic atlases in the Evans library, I noted inscriptions in the 1568 edition of Vesalius' anatomy (*De humani corporis fabrica*) under each of the dissected cadavers that enliven all folio editions of that famous book. On setting about to translate these Latin notes, I discovered that they were mostly quotations. Under one especially lacerated figure were the words, "Oh Lord, have mercy on me," and under another, "What is man that thou art mindful of him." The owner of that precious volume did not sign his name, but he certainly left a signature.

A more serious association value in these records of former ownership is the light they may throw on the possible influence a book has had on the man who owned it. If we know that a particular book was in the hands of Newton, or Harvey, or any of the great or lesser lights in the history of human culture, we can assume with a degree of probability that he read it or read from it. An extraordinary example of this kind of association item, a copy of Robert Boyle's *Memoirs for the Natural History of Humane Blood* (London, 1683-1684), is inscribed by its author to Isaac Newton. It came to the Crerar Library with books and papers from the library of James B. Herrick. While Newton may not have been especially influenced by this little classic, the likelihood that it escaped the reading of its latest personal owner, Dr. Herrick, is quite remote.

This probability of influence might be very low for most men working in recent years, but it is more plausible for men who lived before the rivulet of print became a deluge.

The association value in which we are especially interested here in the library is the way in which these records help to identify the private book collectors of the past. Each of these men—whether his collection numbered many volumes or only a few—helped to preserve the physical form of the intellectual events of the past, which are still important to the intellectual life of our own day.

Among these collectors were many physicians. Some are still living; others are partly contemporary with us, and still others are contemporaries of the men whose books they once owned. To find the mark of ownership of Charles Singer in the 1528 edition of Galen's *De sectis ad medicinae*, or of Herbert McClean Evans in Clavius' *Algebra* of 1609 and Huygens' *Systema Saturnium* of 1659, indicates that here were discriminating collectors. And a 1530 *Regimen Sanitatis* inscribed by Dr. Robert Sonneschein to "his dear teacher Dr. Ludwig Hektoen" tells us that two of Chicago's most famous physicians brought an important book into the collections of a great research library.

Such former owners are legion; a listing of their names with the books they once owned would comprise a respectable bibliography of the history of science. This could be boring to read, however, so I shall limit myself to only a few more interesting examples.

Two famous early tracts on syphilis are *Libellus de epidemia quam vulgo morborum Gallicum*, by Nicolaus Leonicus, printed by the great Venetian printer Aldus Manutius in 1497, and the well-known poem *Syphilis, sive morbus Gallicus*, by Fracastorius, printed in Basel in 1536. The first of these came to us from the daughter of the late Dr. E. Lesser of Leipzig. The second bears, most appropriately, the bookplate of the many-sided medical expert and father of modern pathology, Rudolph Virchow.

Many other examples could be cited of books formerly in the libraries of well-known figures in the history of medicine. But a legion of other physicians, however, have been and are collectors and preservers of important medical books. Who, for example, were "Stephani ab Alexandris Physici," whose autograph is in a copy of the *Sanitate* of Cordanus (1580); or "Fr. Car. Unger. Theol. Phil. Med.," whose bookplate is in a 1660 copy of Remmelin's *Catoptrum microcosmicum*, with its elaborate figures of the human body depicted by superimposed flaps; or "C. L. Lépine, Doct. Med.," whose bookplate is in Guillemeau's *Tables anatomique* (1586); or "John Barkley, M.D.," who once owned the 1600 folio edition of the *Opera Omnia* of Fallopius? And who were the large number of unknowns whose undecipherable autographs are on the flyleaves and title pages of many great books in the history of science and medicine? Was this his only book, or did he have a library?

Looking in more detail at the libraries of individual physicians, it is difficult to select those which will best illustrate the great contribution which physicians have made as book collectors. The surpassing importance of some is obvious. The great collections of Sir William Osler at McGill University and the Nicholas Senn collection at Crerar Library are two of these. Others are the LeRoy Crummer collection at the University of Michigan and the Harvey Cushing collection at Yale University.

We might also select collectors outside the field of medicine and collectors whose collections went the way of most private libraries, namely, dissipation by sale over the auction block or under the ministration of book sellers. The reasons for selection of the half dozen to be described are based partly on personal interest and partly because they illustrate certain special characteristics of these particular libraries and their collectors.

They include the library of the British physician Richard Mead, the medical library of Herbert McLean Evans, the Vesalian collection of Harvey Cushing at Yale, the Elmer Belt collection of Vinciana, donated to the University of California at Los Angeles, the Clifford G. Grulee collection on pediatrics at Crerar Library, and the library of Nicholas Senn.

Richard Mead (1673-1754).—About two years ago we noted in an antiquarian dealer's list a copy of the catalogue from the great sale of Richard Mead's library in 1754 and 1755. An annotation indicated that prices received at the sale had been added in manuscript. This we could hardly miss, so the book was ordered. And it has brought some delightful hours of reading, accompanied by no few tears over the prices received.

The first sale began on Nov. 18, 1754, and extended over twenty-eight days. The second began on April 7, 1755, and lasted for another twenty-eight days. Some 9,800 titles were sold for just under £5,500, or an average of ten shillings, threepence per title.

Richard Mead was one of the most eminent physicians of his day, and a man of wide interests. Numbered among his friends were Newton, Halley and other leading contemporaries. He was a scholar and gave generously of his resources to the patronage of science and literature. He was a member of the College of Physicians, a fellow of the Royal Society of London and Physician-in-Ordinary to King George II. Dr. Samuel Johnson said of him that he "lived more in the broad sunshine of life than almost any man." One of the sources of that sunshine must have been his library, because it contained an amazing variety of the great books of all times down to his own day. The explanation of his acquiring so extensive a library may be found, at least in part, in a reference made by Harvey Cushing (of whom more later) to "Mead's omniverous clutches."

Just a few highlights will serve to show the catholicity of Mead's interests. The first day of the great sale was devoted almost exclusively to the Bible, in many editions, and other theological works. Forty-six octavos, forty quartos and thirty-three folios filled the day. The last of the 119 items sold that day was the *editio princeps* of the great Vulgate Bible, *Biblia Sacra Latina*, printed by Fust and Scheiffer in 1462. The high bid was £25. On the twentieth day of the sale another Fust and Scheiffer imprint, *the Catholicon* of 1460, went for £25.15s.

There were, altogether, 146 incunabula in the library, including works of many of the classical writers—Aristotle, Socrates, and Hippocrates; Terence, Horace and Livy; Ptolemy, Strabo and Pliny. On the sixth day of the first sale ten folios of Pliny's *Historia Naturalis* went on the block, including the first printed edition of 1469, the beautiful Jensen edition of 1472 and four others. The total proceeds for the ten Plinys was about one-twentieth the present market value of either the 1469 or the 1472 edition.

There were books on art, architecture, poetry, history and voyages. There was little in the category "Americana," but two choice items were catalogued: "Ferd. de Soto's Discovery of Florida, by Hakluyt. London, 1609," which went for a shilling, and "Douglass's Summary of the first planting and present State of the British Settlements in North America, Boston, in N. Eng., 1749," which brought a much stiffer price, ten shillings sixpence. Very few items in the sale brought more than £10. A notable exception was the great "Atlas Major; *Cum Tabulis Geographicus elegantissime colorat.* 20 vol. F. D.—*Studio & sumptibus Blaeu*, 1665," which brought £73.10s., a sum that probably would not buy an odd volume from the set today.

As one would expect, scientific and medical works were well represented. There was the mathematics of Euclid, Leibnitz, Euler and Newton; the physics of Kircher, Gilbert and Huygens; the natural history of Gesner, Swammerdam and Needham; the astronomy of Copernicus, Kepler, Galileo and Brahe; the botany of Grew, Parkinson and Gerard; the anatomy of Mundinus, Vesalius, Eustachius, Albinus, Bidloo and Cheselden. One of the choicest items of the sale—on the final day, May 8, 1755—was a copy of the 1543 edition of Vesalius whose books they once owned. To find the mark of ownership of Charles Singer in the 1528 edition of Galen's *De sectis ad medicinae*, or of Herbert McClean Evans in Clavius' *Algebra* of 1609 and Huygens' *Systema Saturnium* of 1659, indicates that here were discriminating collectors. And a 1530 *Regimen Sanitatis* inscribed by Dr. Robert Sonneschein to "his dear teacher Dr. Ludwig Hektoen" tells us that two of Chicago's most famous physicians brought an important book into the collections of a great research library.

Such former owners are legion; a listing of their names with the books they once owned would comprise a respectable bibliography of the history of science. This could be boring to read, however, so I shall limit myself to only a few more interesting examples.

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Many other examples could be cited of books formerly in the libraries of well-known figures in the history of medicine. But a legion of other physicians, however, have been and are collectors and preservers of important medical books. Who, for example, were "Stephani ab Alexandris Physici," whose autograph is in a copy of the *Sanitate* of Cordanus (1580); or "Fr. Car. Unger. Theol. Phil. Med.," whose bookplate is in a 1660 copy of Remmelin's *Catoptrum microcosmicum*, with its elaborate figures of the human body depicted by superimposed flaps; or "C. L. Lépine, Doct. Med.," whose bookplate is in Guillemeau's *Tables anatomique* (1586); or "John Barkley, M.D.," who once owned the 1600 folio edition of the *Opera Omnia* of Fallopius? And who were the large number of unknowns whose undecipherable autographs are on the flyleaves and title pages of many great books in the history of science and medicine? Was this his only book, or did he have a library?

Looking in more detail at the libraries of individual physicians, it is difficult to select those which will best illustrate the great contribution which physicians have made as book collectors. The surpassing importance of some is obvious. The great collections of Sir William Osler at McGill University and the Nicholas Senn collection at Crerar Library are two of these. Others are the LeRoy Crummer collection at the University of Michigan and the Harvey Cushing collection at Yale University.

We might also select collectors outside the field of medicine and collectors whose collections went the way of most private libraries, namely, dissipation by sale over the auction block or under the ministration of book sellers. The reasons for selection of the half dozen to be described are based partly on personal interest and partly because they illustrate certain special characteristics of these particular libraries and their collectors.

They include the library of the British physician Richard Mead, the medical library of Herbert McLean Evans, the Vesalian collection of Harvey Cushing at Yale, the Elmer Belt collection of Vinciana, donated to the University of California at Los Angeles, the Clifford G. Grulee collection on pediatrics at Crerar Library, and the library of Nicholas Senn.

Richard Mead (1673-1754).—About two years ago we noted in an antiquarian dealer's list a copy of the catalogue from the great sale of Richard Mead's library in 1754 and 1755. An annotation indicated that prices received at the sale had been added in manuscript. This we could hardly miss, so the book was ordered. And it has brought some delightful hours of reading, accompanied by no few tears over the prices received.

The first sale began on Nov. 18, 1754, and extended over twenty-eight days. The second began on April 7, 1755, and lasted for another twenty-eight days. Some 9,800 titles were sold for just under £5,500, or an average of ten shillings, threepence per title.

Richard Mead was one of the most eminent physicians of his day, and a man of wide interests. Numbered among his friends were Newton, Halley and other leading contemporaries. He was a scholar and gave generously of his resources to the patronage of science and literature. He was a member of the College of Physicians, a fellow of the Royal Society of London and Physician-in-Ordinary to King George II. Dr. Samuel Johnson said of him that he "lived more in the broad sunshine of life than almost any man." One of the sources of that sunshine must have been his library, because it contained an amazing variety of the great books of all times down to his own day. The explanation of his acquiring so extensive a library may be found, at least in part, in a reference made by Harvey Cushing (of whom more later) to "Mead's omniverous clutches."

Just a few highlights will serve to show the catholicity of Mead's interests. The first day of the great sale was devoted almost exclusively to the Bible, in many editions, and other theological works. Forty-six octavos, forty quartos and thirty-three folios filled the day. The last of the 119 items sold that day was the *editio princeps* of the great Vulgate Bible, *Biblia Sacra Latina*, printed by Fust and Scheiffer in 1462. The high bid was £25. On the twentieth day of the sale another Fust and Scheiffer imprint, *the Catholicon* of 1460, went for £25.15s.

There were, altogether, 146 incunabula in the library, including works of many of the classical writers—Aristotle, Socrates, and Hippocrates; Terence, Horace and Livy; Ptolemy, Strabo and Pliny. On the sixth day of the first sale ten folios of Pliny's *Historia Naturalis* went on the block, including the first printed edition of 1469, the beautiful Jensen edition of 1472 and four others. The total proceeds for the ten Plinys was about one-twentieth the present market value of either the 1469 or the 1472 edition.

There were books on art, architecture, poetry, history and voyages. There was little in the category "Americana," but two choice items were catalogued: "Ferd. de Soto's Discovery of Florida, by Hakluyt. London, 1609," which went for a shilling, and "Douglass's Summary of the first planting and present State of the British Settlements in North America, Boston, in N. Eng., 1749," which brought a much stiffer price, ten shillings sixpence. Very few items in the sale brought more than £10. A notable exception was the great "Atlas Major; *Cum Tabulis Geographicus elegantissime colorat.* 20 vol. F. D.—*Studio & sumptibus Blaeu,* 1665," which brought £73.10s., a sum that probably would not buy an odd volume from the set today.

As one would expect, scientific and medical works were well represented. There was the mathematics of Euclid, Leibnitz, Euler and Newton; the physics of Kircher, Gilbert and Huygens; the natural history of Gesner, Swammerdam and Needham; the astronomy of Copernicus, Kepler, Galileo and Brahe; the botany of Grew, Parkinson and Gerard; the anatomy of Mundinus, Vesalius, Eustachius, Albinus, Bidloo and Cheselden. One of the choicest items of the sale—on the final day, May 8, 1755—was a copy of the 1543 edition of Vesalius *printed on vellum.* The location of this possibly unique copy is apparently not known; but another copy, on paper, was purchased on the sixteenth day of the first sale by the great Scottish physician William Hunter (36 years of age at the time) and is now in the Hunterian Library at the University of Glasgow. Hunter had previously purchased, at the sale of Mead's prints and drawings, a codex of Vesalius for £27 16s. 6d., also at Glasgow.

A final note on the Mead library—a special evidence that it was the work of a scholar—should call attention to the impressive files of outstanding periodicals of the late sixteenth and early seventeenth centuries. There was a complete set of the *Philosophical Transactions* from 1665 to 1752; a 93-volume set of the *Acta Eruditorum* and its supplementary series; 27 volumes of *Miscellanea curiosa,* and shorter runs of half a dozen other periodicals, most of which are in relatively few libraries today. From one point of view it is unfortunate that the Mead's library could not have gone intact to some great learned institution; but from another point of view, the distribution of the library led many great books, at least eventually, to many other "permanent" libraries, perhaps around the world.

Herbert McClean Evans.—Of the three living physician-collectors whose libraries are chosen for mention here, the first is Herbert McClean Evans, professor emeritus at the University of California in Berkeley. There are two reasons for this selection. The first is personal, as may be inferred from an earlier remark. The second reason is to emphasize the contribution that can be made by a discriminating collector.

My acquaintance with this library began when I was employed in the Biology Library at the University, in a capacity described by Melville in the preface to *Moby Dick* as a sub-sub-sub-librarian. Dr. Evans' offices, laboratories and libraries (he had a separate library of scientific classics other than medicine) were on the floor immediately above us in the Life Sciences Building. Learning of my nascent interest in the history of science and medicine, Dr. Evans opened his medical library to me on any occasion when I could find hours to spend there, and for a couple of years the occasions were frequent.

In frequent conversations with Dr. Evans I came to have a high respect for the discrimination he exercised in searching out and acquiring the most significant books in the history of medicine. Tipped into my copy of the mimeographed catalog of this collection is a note signed by Charles Singer that attests to the quality of the library. "I can hardly imagine," he wrote, "a better nucleus for a great library which would treat of all the various aspects of the history of medicine. Nearly every work of first class importance is represented in it. . . . I know of no library of its size so well selected."

The collection was organized into seven sections: (1) classics and works of outstanding merit; (2) history of medicine: biography, bibliography, dictionaries; (3) anatomy and embryology; (4) physiology and biochemistry; (5) pathology and pathologic anatomy; (6) bacteriology and infectious diseases; and (7) general medicine. Titles selected for the first section, medical classics, cut across all fields of scientific and clinical medicine.

One of the most difficult tasks is to appraise any collection accurately by describing only a portion of its contents. To say too little may result in failure to convey an impression of the real richness of a collection. Yet too little may be too much if the listing of all of the few highlights in a small collection gives the impression that it is very rich indeed. What every collector, private or official, would like to say about his collection is, "it has everything." Fortunate is the collector who can say of his library what Dr. Singer wrote about Dr. Evans' library: "Nearly every work of first-class importance is represented in it."

This is a suitable closing sentence for reference to the Evans library, but having collated every volume in this particular collection and having savored many samples of its content, I shall not deprive myself of mentioning a few of the choice items. In any case, I like to arouse interest in the collection, because some of my readers will surely have an opportunity to visit it at some time and may wish to use it.

Largely through the efforts of Dr. James J. Waring of Denver, this collection was purchased for the Denver County Medical Society—then called, if I remember correctly, the Medical Society of the City and County of Denver.

In the "classics" section of the library the catalog describes 347 items dated prior to 1900. Most of the great names in the history of medicine are represented. Albinus (anatomist), von Baer (embryologist), Bernard (experimental physiologist), Bichat (histologist), Boveri (cytologist), Cruveilhier (pathologist), Haller (physiologist and bibliographer of medicine), Hoppe-Seyler (biochemist), John Hunter (clinician and naturalist), Koch (bacteriologist), Laennec (diagnostician) and one has only sampled the alphabet. Each of the basic sciences and clinical divisions of medicine is represented.

There are gaps in the collection of first editions, but the only one of prime importance is the absence of Harvey's *De motu cordis.* Nevertheless there are in the collection some rare and distinguished items. One in particular I should like to mention: a fine copy of the first edition of the first book on the lacteals and the first medical book with colored illustrations. It is *De Lactibus sive lacteis venis guarto vasorum mesaraicorum* (1627), by Gasparis Asellius.

Harvey Williams Cushing (1869-1939).—Another twentieth-century collector was Harvey Cushing, foremost neurologic surgeon of the century and authority on the pituitary body and its disorders. His library is now at Yale University.

The aspects of Cushing as a collector to which I draw your attention were his intensive concentration on the anatomic works of Vesalius and his successors and his magnificent book on the subject of his collection, *A Bio-Bibliography of Andreas Vesalius* (New York, Schuman, 1943), published after his death under the editorship of another collector-bibliographer, Dr. John F. Fulton.

Cushing states in his bibliography that, "As a book, the *Fabrica* has been more admired and less read than any publication of equal significance in the history of science." This statement quite obviously did not apply to its author, for Cushing knew the work of Vesalius as intimately as any man ever has.

The *Bio-Bibliography* describes in detail 148 items of Vesalian interest, with full transcription of title pages, detailed collation, contents and notes on the edition or particular copy, locations of copies known to him, indication of the copy used as the basis for the bibliographic description and the dimensions of the copy described. And before, between and after these descriptions is presented a brilliant account of Vesalius' work and of the artist who collaborated with him in preparation of it, Johann Calcar, "a Flemish painter of great merit."

The *Bio-Bibliography* is divided into ten chapters:

1. Paraphrases of the Ninth Book of Rhazes.
2. The "Tabulae sex."
3. Guenther's "Institutiones anatomicae."

4. The venisection Epistle.
5. Contributions to the "Opera Galeni."
6. The "Fabrica" and its sequelae.
7. The China-root Epistle and the aftermath of the "Fabrica."
8. The "Concilia."
9. Fallopius and Vesalius.
10. Vesaliana.

Death came to Harvey Cushing before he could complete this definitive work. The chapter entitled "Fallopius and Vesalius" was written entirely by Dr. Arturo Castiglioni, who assisted the editor with other parts of the work. Dr. Fulton added numerous notes, and others assisted him in final preparation of the book for publication.

Of the 148 items included in the *Bio-Bibliography,* 111 were Cushing's own copies. One of the interesting bits of information added on many items, in addition to the details aforementioned, were notes on the provenance of Cushing's own copies. Examples are: "Presentation, inscribed Sudhoff, Harvard, 8, X, 1929"; "bought from E. P. Goldschmidt in 1926 for £90"; "bought from J. L. Syme, Paris, 1909 . . . Provenance: inscribed F. R. Noëus, Paris, 1552"; "Only copy known that of author, purchased in 1930 from Lier (lacks pp. 17-18, 23-24, and inserted arterial plate)"; "gift of B. W. Th. Nuyens of Amsterdam, October 1932"; and "purchased at 'Southeby's sale, Nov. 1921, very cheap.'"

Few collectors have carried their special brand of bibliomania to the logical conclusion sought, and almost attained, by Harvey Cushing.

Elmer Belt.—Our second contemporary collector is another Californian, Dr. Elmer Belt, eminent urologist and student of Leonardo da Vinci. His great library of Vinciana is destined to serve the students and researchers in the University of California at Los Angeles for, we may hope, all time.

In the preface to a "finding list" of the library, issued in 1946, Dr. Belt gives an account of the manner in which he became interested in Leonardo:

"It is a custom of our medical pedagogues to plunge the freshman medical student into a morass of gross anatomy from which he can scarcely emerge. The text books he is told to read are heavy with words. Their illustrations are as lifeless and uninspiring as is the rigid, embalmed cadaver he dissects. The intricate beauty of the human body is well hidden.

"Rebellious and self-indulgent, *this* medical student turned his back on dissection for an afternoon to spend it on a high stool smelling the sweet-scented dust of books in an old book shop on a back street in Berkeley. Here the precious hours passed like minutes. Suddenly a dignified, tall, vellum-bound volume lay open: *Dell' Anatomia, Fogli B,* by Leonardo da Vinci, published by Sabachnikoff. The eyes swept on and as stiff pages turned anatomy came to life, a text illegible, but there lay page after page of living drawings; anatomy made real by the greatest of masters. Here was what the study of Anatomy could be, and from then on it was, a thing of beauty.

"If there is a Fogli B, there must be an A. Soon the search included the *Quaderni D'Anatomia,* then Richter and with Richter a sudden expanding desire which spread in all directions at once: What made this man so great an observer, so appealing a draftsman, so clear a thinker? What did he actually write; which writings were original? Where could these writings be found? What was his influence upon the men of his time, and upon us? What were his sources of inspiration? What value does modern science place upon him?

"The slow accretion of books expressing these ideas began and has never ended. It has no end."

The term "comprehensive" can be applied as appropriately to the Elmer Belt Library of Vinciana as to any other library known to me. As Dr. Belt has indicated, collecting "has no end." But a long reach toward that end has already been accomplished. In 1948, the library published a monograph entitled *Manuscripts of Leonardo da Vinci; Their History, with a Description of the Manuscript Editions in Facsimile.* At the end of this work is a two-page description headed "The Scope of the Library." It begins: "Our library, in its scope, includes the facsimiles of Leonardo's notebooks, complete in all editions." It continues with an indication of the wide variety of related research material, and ends with the following statement of purpose:

"Our Leonardo library intends to become a workers' library for the study of the Italian Renaissance. This magnificent period is viewed through the personality of its greatest and most appealing figure, Leonardo da Vinci, foremost thinker among men."

Elmer Belt, like Richard Mead, ranged outside the field of medicine in pursuit of his passion for collecting; but more like Harvey Cushing, he has enriched the scholarly resources of America by concentrating on works related primarily to one man, and he has assured the permanent preservation of the collection by donating it to a great university.

Clifford Groselle Grulee.—The Clifford G. Grulee Collection on Pediatrics, donated to Crerar Library in 1948, is a notable monument to a persistent and devoted medical collector throughout his active career as a pediatrician, teacher, author and editor.

This collection is included in the sample for two reasons other than the fact that it is "near home" and is more familiar to me than the others. First, it is an excellent example of a collection devoted to one clinical specialty in medicine. Second, it contains not only the great historical classics in the field but current research literature as well. At the time Dr. Grulee gave his collection to Crerar Library, it contained more than 4,000 bound volumes, hundreds of unbound monographs, a large collection of reprints and approximately five file drawers of correspondence. It was realized that many titles would duplicate items already at Crerar, but it was planned to select the best copy of such duplicates to be retained and to sell the remainder of the duplicates. The total collections in Crerar Library were then designated the Clifford G. Grulee Collection on Pediatrics.

A printed catalog published by Crerar Library late in 1959 describes 4,404 titles, exclusive of reprints. The catalog is divided into four sections: General Works, including bibliographies, general treatises in the latest editions, and histories of pediatrics (69 titles); periodicals and other serial publications (372 titles); books published through the nineteenth century, arranged by century and then alphabetically by author—15th and 16th centuries (64 titles), 17th century (57 titles), 18th century (202 titles), and 19th century (748 titles); and, finally, books published in this century (2,892 titles), arranged systematically by subject. The whole is thoroughly indexed by personal names, institutional names and subjects. New publications are added regularly and should be assured for several years through proceeds from sale of the catalog.

Here again it is difficult to summarize the content of the collection, but the scope is indicated in the following quotation from the introduction to the catalog. The collection contains:

"— the first published book on children's diseases (Bagellardus, 1472), the first written by an Englishman (Phaer, 1595—the first edition of 1545 is still a desideratum), the first in French (Vallambert, 1565), the first on infant surgery (Würtz, 1656), and the writings of the founder of modern pediatrics (Rosén von Rosenstein);

"— the early texts and treatises by Walter Harris, George Armstrong. Michael Underwood, William Dewees, and Charles West, some of which went through many editions and served as standard works for as much as a hundred years;

"— the pediatric periodicals and other serial publications of the World (372 titles), issued by societies, academies, government agencies, and hospitals;

"— the great compendia of the nineteenth and twentieth centuries, by Rilliet and Barthez; Gerhardt; Nobecourt and Babonneix; Pfaundler and Schlossman; Isaac Abt; and Joseph Brennemann; and

"— a great number of texts and monographs that still make up the working literature available to practicing pediatricians and those engaged in clinical research on the diseases of children."

Nicholas Senn (1844-1908).—For a final example of the physician as collector I have chosen the Senn Collection, donated first to Newberry Library by Dr. Nicholas Senn before the turn of the century, and transferred to Crerar Library, by agreement between Dr. Senn and the two libraries in 1906. The collection was reputedly one of the largest medical libraries in private hands. It contained 10,689 volumes and 14,501 pamphlets, according to the annual report of Crerar's librarian, Clement Walker Andrews, for 1906. Dr. Senn's interest i[illegible] llection continued, and Mr. An[illegible] d in 1908 that during the [illegible] Dr. Senn's death he had [illegible] additional items for inco[illegible] the collection.

An exhibit of items from the fifteenth and sixteenth centuries (15 incunabula and 36 published after 1500) were placed on display early in 1908. It consisted almost exclusively of classical Greek and Roman and mediaeval writers. This illustrates Senn's great interest in the history of medicine, as did the fact that more than 800 titles in the collection were printed in the sixteenth through the eighteenth century. As might be expected, the collection was strong in anatomy and surgery, but the same could be said for every aspect of the science and practice of medicine. It was, indeed, a firm foundation on which to build the largest institutional medical library west of the Atlantic seaboard.

In his collecting activities, Senn drew upon the libraries that had been collected by other physicians. For example, he purchased the principal part of the private library of the eminent German physiologist, Emil Heinrich Du Bois-Reymond (1818-1896), who for nearly twenty years was editor of *Archiv für Physiologie* and the author of a classic on animal electricity as well as many other medical writings, all of which are in the collection.

As one views the active career of Dr. Senn, the breadth, size and quality of the library become more striking. He was a very busy and very productive man and contributed much, himself, to the literature of medicine. Garrison says of his work:

"Senn made valuable experimental contributions to the study of air embolism (1885), the surgery of the pancreas (1[illegible] gunshot wounds, and intestinal [illegible] in which he introduced the [illegible] bone-plates [illegible] was, i[illegible] t master [illegible] inal [illegible] in the [illegible] of [illegible] evised [illegible] and was the first to use the Roentgen rays in the treatment of leukemia (1903)."

The public catalog in the Medical Department of Crerar Library has inches of cards indicating Senn authorship. Listed here are his *Principles of Surgery* (1890), with its three subsequent editions; *Surgical Bacteriology* (1889), revised in 1891 and translated into French (1890); *Experimental Surgery* (1889); *The Pathology and Surgical Treatment of Tumors* (1895); and *Medio-Surgical Aspects of the Spanish American War* (1900, by "Lieutenant-Colonel Dr. Nicholas Senn"). There are also ninety reprints bound in five volumes with the binder's title "Surgical Monographs"; numerous other reprints, and more than 150 manuscripts of papers, lectures and books written by Dr. Senn.

In addition to his experience as a military surgeon, Senn served on the faculty of Rush Medical College and found time for several trips around the world. Printed and manuscript accounts of his travels include *Around the World via Siberia* (1902) in a two-volume manuscript, and a 502-page volume from articles in the *Chicago Tribune; Around Africa via Lisbon* (1906) in three volumes and 1,704 pages; *Around the World via India* (1905); *Tahiti, the Island Paradise* (1906), *Around South America* (in the year 1907, a ms. of 1,036 pages); and *In the Heart of the Arctics* (1907), an account of his experience as a passenger on the supply ship Erik, which accompanied the Roosevelt, Commander Peary's vessel, as far north as Etah, Greenland, in the summer of 1905.

Senn had lived a full life, and he retained a lively interest in medical matters to its end. This was exhibited by the largest purchases for the Senn collection during his final year. It is also shown by an address he delivered before the Medical Association of the State of Alabama, April 17, 1907, "The Final Triumph of Scientific Medicine." He opened the address with a quotation from Terence: "That is to be wise to see not merely that which lies before your feet, but to foresee even those things which are in the womb of futurity." He reviewed man's conquest of the scourges of smallpox, hydrophobia, wound infection, puerperal sepsis, tetanus, malaria, typhoid fever, yellow fever and bubonic plague. Then he closed with observations on "medicine in the future." He anticipated the ultimate successful conquest of tuberculosis and carcinoma as well as that of "all acute self-limited infectious diseases," and concluded: "Preventive medicine is the medicine of the future, and the triumph of scientific medicine will be the suppression of disease."

* * *

The despisers of mankind—apart from the mere fools and mimics of the creed—are of two sorts: they who believe their merit neglected and unappreciated, make up one class: they who receive adulation and flattery, knowing their own worthlessness, composing the other.

—*Dickens*

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"Senn made valuable experimental contributions to the study of air embolism (1885), the surgery of the pancreas (1886), gunshot wounds, and intestinal anastomosis, in which he introduced the use of decalcified bone-plates. He was, in fact, a great master of intestinal surgery, especially in the treatment of appendicitis. He devised a method of detecting intestinal perforation by means of inflation with hydrogen gas (1888), but walked home each Friday to help on the farm and walked back on Sunday.

In his senior year at Appleton High School young Murphy worked after school and over weekends in the town drugstore. Here he came under the influence of the village practitioner, Dr. H. W. Reilly, who had an office above the store. Dr. Reilly allowed the boy to accompany him on his house calls and to help him with the many emergencies in his office. He fired the imagination and enthusiasm of the youth, so that when the time arrived for graduation from high school the young lad knew that he wanted to become a doctor, instead *of a teacher as he had originally planned.* Naturally Dr. Reilly was happy to have the boy as an apprentice, and with brand-new copies of Gray's *Anatomy* and Draper's *Physiology* the boy started his exciting year of preceptorship. All the time his interest in medicine grew. His work stimulated his imagination and filled his mind with ideas. When he was alone and had a bit of free time he found fascination and relaxation in dissecting dead birds, rabbits and squirrels—anything he could get his hands on. He learned by careful study of their organs and of his anatomy text.

Dr. Reilly realized that the boy had outstanding qualities and urged him to continue his education in medical school.

On Oct. 1, 1878, at the age of 21, Murphy entered Rush Medical College in Chicago. He heard many lecturers, but the man who impressed him most and who became his idol, was Dr. Moses Gunn, professor of surgery. Gunn was thoroughly equipped as a surgeon, and young Murphy was profoundly influenced by him.

At the end of his year of lectures, in 1879, Murphy took the examination for internship at the Cook County Hospital and won first place. He was so interested in his work and the care of patients that he endeared himself to his attending surgeon, Dr. Edward Lee. Dr. Lee, admiring the young man's ability and zeal for learning, befriended and counseled him toward further and higher learning. While at the County Hospital Murphy also fell under the spell of Christian Fenger, the great pathologist, who held weekly Thursday evening meetings at his home for the interns. On such evenings Murphy, together with Frank Billings, L. L. McArthur, and others, would meet at Fenger's home for a review of autopsy material and the latest medical literature. These sessions usually ended with stories by Fenger of the wonderful clinics in Vienna, Heidelberg and Berlin.

At the end of his year's internship at County Hospital, Dr. Lee encouraged Murphy to spend a year abroad studying surgery and offered him a position as his assistant in private practice on his return. In September 1882, Murphy set out for his postgraduate course. His itinerary included Vienna, where he studied at the Allgemeines Krankenhaus under Theodor Billroth; Berlin, where he came under the spell of Carl Schroder, the head of gynecologic surgery at the University of Berlin, and finally Heidelberg, where he studied pathology under the great Julius Arnold.

He returned to Chicago in the spring of 1884, at the age of 26, and entered private practice with Dr. Edward Lee in that city.

On Nov. 25, 1885, he married his patient Jeanette Plamondon, the 17-year-old daughter of Mr. and Mrs. Ambrose Plamondon, a socially prominent and wealthy Chicago family. Mrs. Murphy took an active share and interest in his surgical experimental work and was a great influence on his future activities and practice.

The scientific attainments of Dr. Murphy are numerous. He was among the

John B. Murphy

An Inquiry into His Life and Scientific Achievements

KARL A. MEYER, M.D., F.A.C.S., F.I.C.S., D.A.B.
AND
SAMUEL HYMAN, M.D., F.A.C.P.
CHICAGO, ILLINOIS

JOHN B. MURPHY, one of the three great pioneers in surgery of Chicago, though younger than Senn and Fenger, was their worthy colleague. For many years these three were regarded as the most distinguished surgeons of Chicago and the Northwest.

Dr. Murphy was a great experimental and practical surgeon, an expert operator, a famous teacher and one who was active in the establishment and promotion of scientific research, journals and professional societies. He was a tireless student all his life, with an investigative and inquiring mind. Dr. Murphy was a man of commanding presence and pleasing personality. He had a profound influence on the progress of scientific medicine throughout the world during his lifetime.

Early in his career, Murphy began the study of current literature, and by applying the ideas obtained from the various pathology and physiology journals on clinical surgery via experiments on the dog, he was able to discover and make great contributions to surgery.

At the time of his death Murphy was considered the foremost of the world's younger surgeons. He was invited to address meetings in Rome, Berlin, Paris, London and other great medical centers. He was an international figure. How he would have enjoyed such an organization as the International College of Surgeons, with members all over the world!

What made this man a great surgeon, leader, teacher and organizer? To learn from the biographies of great men one must examine their lives, aims, philosophy and work. Dr. Murphy left a heritage of surgical achievements. He was the first, or among the first, to develop surgical procedures for treatment of the appendix, brain and spinal cord, chest, blood vessels, intestines—including the invention of the Murphy button—and finally one of his greatest achievements, his work in bone and joint surgery. He was not only an original investigator in these fields but an internationally recognized authority, and his name will be associated with these subjects as long as there is a surgical literature.

J. B. Murphy was born on a farm near Appleton, Wisconsin, on Dec. 21, 1857. As a farm boy he assumed responsibilities at an early age, and he soon learned to think about, analyze and study the wonders of nature about him. His aggressive and eager young mind was constantly on the alert to learn and do new things. This trait, which was characteristic of him throughout his life, made him a pioneer and leader in the growth of surgery in Chicago and the Middle West.

He attended the district school—one room and one teacher—and was graduated at the age of 15. He then entered the Appleton High School, four miles from his home. He stayed with a relative in town

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From Cook County Hospital, Chicago, Illinois.

Adopted from the John B. Murphy Lecture, delivered at the Twenty-Fourth Annual Congress of the North American Federation, International College of Surgeons, Chicago, Sept. 13-17, 1959.

but walked home each Friday to help on the farm and walked back on Sunday.

In his senior year at Appleton High School young Murphy worked after school and over weekends in the town drugstore. Here he came under the influence of the village practitioner, Dr. H. W. Reilly, who had an office above the store. Dr. Reilly allowed the boy to accompany him on his house calls and to help him with the many emergencies in his office. He fired the imagination and enthusiasm of the youth, so that when the time arrived for graduation from high school the young lad knew that he wanted to become a doctor, instead of a teacher as he had originally planned. Naturally Dr. Reilly was happy to have the boy as an apprentice, and with brand-new copies of Gray's *Anatomy* and Draper's *Physiology* the boy started his exciting year of preceptorship. All the time his interest in medicine grew. His work stimulated his imagination and filled his mind with ideas. When he was alone and had a bit of free time he found fascination and relaxation in dissecting dead birds, rabbits and squirrels—anything he could get his hands on. He learned by careful study of their organs and of his anatomy text.

Dr. Reilly realized that the boy had outstanding qualities and urged him to continue his education in medical school.

On Oct. 1, 1878, at the age of 21, Murphy entered Rush Medical College in Chicago. He heard many lecturers, but the man who impressed him most and who became his idol, was Dr. Moses Gunn, professor of surgery. Gunn was thoroughly equipped as a surgeon, and young Murphy was profoundly influenced by him.

At the end of his year of lectures, in 1879, Murphy took the examination for internship at the Cook County Hospital and won first place. He was so interested in his work and the care of patients that he endeared himself to his attending surgeon, Dr. Edward Lee. Dr. Lee, admiring the young man's ability and zeal for learning, befriended and counseled him toward further and higher learning. While at the County Hospital Murphy also fell under the spell of Christian Fenger, the great pathologist, who held weekly Thursday evening meetings at his home for the interns. On such evenings Murphy, together with Frank Billings, L. L. McArthur, and others, would meet at Fenger's home for a review of autopsy material and the latest medical literature. These sessions usually ended with stories by Fenger of the wonderful clinics in Vienna, Heidelberg and Berlin.

At the end of his year's internship at County Hospital, Dr. Lee encouraged Murphy to spend a year abroad studying surgery and offered him a position as his assistant in private practice on his return. In September 1882, Murphy set out for his postgraduate course. His itinerary included Vienna, where he studied at the Allgemeines Krankenhaus under Theodor Billroth; Berlin, where he came under the spell of Carl Schroder, the head of gynecologic surgery at the University of Berlin, and finally Heidelberg, where he studied pathology under the great Julius Arnold.

He returned to Chicago in the spring of 1884, at the age of 26, and entered private practice with Dr. Edward Lee in that city.

On Nov. 25, 1885, he married his patient Jeanette Plamondon, the 17-year-old daughter of Mr. and Mrs. Ambrose Plamondon, a socially prominent and wealthy Chicago family. Mrs. Murphy took an active share and interest in his surgical experimental work and was a great influence on his future activities and practice.

The scientific attainments of Dr. Murphy are numerous. He was among the and another brother, a pharmacist in Chicago, all died of pulmonary tuberculosis within a short time. In 1898, in Denver, he delivered the Oration in Surgery before the American Medical Association on pulmonary abscess and reported the use of nitrogen gas by injection into the pleural cavity to produce collapse of the lung in the treatment of pulmonary tuberculosis.

He early became interested in orthopedic surgery and he became a leader in surgical therapy of the bones and joints, making numerous contributions to the literature.

Traumatic surgery also interested him greatly and in his clinics he displayed an amazing knowledge of regional and topographic anatomy.

Dr. Murphy believed in and expressed the ideals and aims of proper and adequate training and research; conscientious and humane care of patients, and continuous, lifelong medical education—everything the International College of Surgeons now represents and encourages.

He was a great and popular teacher and an effective speaker and lecturer. He was tremendously interested in medical education and spent much time in undergraduate and postgraduate training for doctors. His clinics were crowded with medical students, visiting physicians and often distinguished guests from all over the world. These guests of international reputation were always introduced, and many spoke on topics of current interest. He had certain basic philosophic principles for student instruction which he described to the students when they first attended his clinics at the Mercy Hospital, so that they would understand his objectives and methods. To the new 1913 class at Northwestern he said: "In our plan of teaching clinical surgery in this clinic, the purpose is to get the student to think, and to think not only when he is in his seat in the amphitheatre, but also when he is on his feet, which is a much more difficult proposition. When I press him for words and for answers, remember it is always impersonal; we are not endeavoring to put him in the position of one who does not know, but to get him to think, and to get the other members of the class to think with him. My question and answer method of discussing clinical subjects with members of the class is the best way to train you to think for yourselves. It is not so much the information I give you which is so important as it is the methods of seeking information. Remember the child's education—that is the key to my system.

"The child's education comes by asking questions—and your education will not continue to grow unless you keep asking yourself pertinent questions and unless you devote some time of every day to medical authorities to hunt down the answers to these questions. It is the system of asking questions about actual cases—and getting the answers—that will enable you to attain the skill, knowledge, foresight, and finally diagnostic ability, which is the highest accomplishment attainable in medicine."

Obviously, this advice is applicable to all doctors in the lifelong study of medicine and surgery.

Students were anxious to see him operate, but he explained to them: "While a surgical clinic is presumably an operative clinic, we will devote little or no time to operations. Students should go to a surgical clinic to learn pathology, applied anatomy, applied physiology, and above all, applied diagnosis; rather than how to operate. The mere operative procedure is incidental. Students remember little of the details of an operation. If you wish to study operations you can do it better from a textbook after you have graduated and have time on your hands. However, you cannot learn diagnosis anywhere as well as in the clinic, where you have the patient before you. Diagnosis you must learn by a system of personal investigation of actual patients. It cannot be gotten out of textbooks. You must get it by repeated analysis of case after case, by constant study and by continual practice in physical examination."

Murphy was a keen diagnostician, and his judgment about the nature of an illness or the advisability of operation was almost uncanny.

He believed that a good surgeon must also be a good diagnostician, so he was a strong advocate of physical diagnosis and the taking of a detailed history at the bedside. He informed his students that there is nothing so important or practical or intellectual in medicine or surgery as the interpretation of symptoms and physical signs into pathologic entities, and that failure to perform careful examinations was the most common cause of error.

Dr. Murphy had a unique way of conducting his famous clinics at Mercy Hospital, reports of which were published under the title *The Surgical Clinics of John B. Murphy at Mercy Hospital, Chicago*, beginning Feb. 1, 1912. With the patient in the amphitheatre, he would call down a student or intern and by means of the question and answer method, directed first to the student or intern and then to the patient, he would skillfully, step by step, build up a diagnosis, which was often dramatically confirmed at the operating table or in the autopsy room. Students and house staff alike feared a session in the arena, but after it was over they conceded that what they had learned there stayed with them.

To show their appreciation, the students in one of his classes, at the end of the clinic year (May 22, 1914) spontaneously presented Dr. Murphy with a testimonial. He was obviously moved and pleased as he read:

"To Dr. Murphy: We, the members of the senior class of Northwestern University Medical School, on this our last clinic day, wish to take this form of expressing our sincere appreciation to you and your staff for your regularity, punctuality, and faithful, and efficient service in giving to us such a thorough systematic course of instruction as we have received during this past school year. *L. J. Palmer, President.*"

In answer to this testimonial, Dr. Murphy summarized his ideas of a good teacher. He said:

"You probably do not realize what it means to a teacher to have the confidence and respect of his class. It is a great stimulus to a teacher when talking to you to see that your eyes and mind are riveted on the things he is endeavoring to demonstrate. His primary responsibility is to you; but his ultimate responsibility is enormously greater. He not only imparts to you factual information, but—more important—he trains you to acquire further learning. Teaching is not only a means of preparing you to render efficient service to those who entrust themselves to you, but also to prepare you to teach future generations for this great work. Furthermore, a teacher must instill in you the desire for still broader education and training and the proper guidance for its pursuit."

During his early career Murphy became interested in experimental surgery, an interest which he constantly fostered and developed. He established a dog laboratory in a garage behind his house and for many years, with the help of his wife, he performed the experiments that became the bases of his great discoveries.

To a graduating class he gave this parting information about clinical research:

"When taking a new step in a surgical procedure, you have much more to think of than your own career. Your most careful thought must be for the patient. If you perform a new operation, do not do it for the first time on the patient. Do it on the cadaver and on the dog. If I had to state where I acquired the greatest amount of technical knowledge, where I received the greatest benefit in the way of gaining confidence in my own operative procedures, I should say that practically all of it was acquired from operations on the dog and a smaller percentage from operations on the cadaver. Still there is no new operation of any severity or gravity, even now, that I do not perform first on the cadaver. Such practice will give you confidence in yourself when you operate on the patient and will increase your fitness to serve the best interests of the people. When you ask yourself what is still left to be done in research, remember that nothing has been done compared to what is left in this enormous realm. Every day men come to me and ask, 'What can I do?' There is scarcely any field of surgical work in which there is not a tremendous amount to do, and which can lead to reputation and to personal and professional advancement."

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"Begin your experimental surgery with the arteries and veins, because the control of hemorrhage is the key to all surgical procedures. Learn to master every type of hemorrhage. You can now find in most of the textbooks a chapter on surgery of the blood vessels. Do all of these experiments yourself. Verify what the other man has done, not because you are going to use vascular sutures much, but because you are going to meet arteries and veins every single day and the control of bleeding will be one of your principal functions if you are to be a success in surgery.

"After you have fully covered the management of arteries and veins, the next subject to take up is surgery of the lung. Open the chest wall and transplant the lung through the ribs by spreading and resecting them. Read the technical feats which have been accomplished, and do them; then do the things which have not been done.

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Imagine what such a school would have meant to Chicago and to Murphy as a postgraduate medical center, at a time when practically all postgraduate education was obtained in Europe. Yet the question hung fire from 1915 to 1932 before the Cook County Post-Graduate School was established.

Dr. Murphy believed in postgraduate education for himself also. With a few of the leading surgeons in United States—the Mayos, George Crile of Cleveland, A. J. Ochsner of Chicago, John B. Deaver of Philadelphia and others—he associated himself in the formation of a club for the purpose of exchanging ideas and attending each other's operative clinics. The social aspects were minimized, as the members spent practically all their time in the operative theatre and in discussion.

With all his scientific honors came appropriate recognition from medical schools and hospitals, and in 1892, at the age of 35, Murphy became professor of surgery at the College of Physicians and Surgeons in Chicago, later transferring to Northwestern, where he served from 1908 to 1916, except for three years at Rush (1905-1908).

From 1895 until his death he was Chief Surgeon at Mercy Hospital, where much of his best work was done. Largely through his efforts, this hospital was enlarged and its management, nursing and educational features improved. At the same time he was attending and consulting surgeon at various other hospitals—Cook County, St. Joseph's, Columbus, the Hospital for Crippled Children, and Alexian Brothers.

He was a charter member of the Chicago Surgical Society in 1900, and in 1904 he became its President. He was one of the charter members and regents of the American College of Surgeons and was Chief of the Editorial Staff of the journal *Surgery, Gynecology and Obstetrics,* from 1908 to 1916. He was President of the American Medical Association in 1911, President of the Clinical College of Surgeons of North America in 1914 and 1915 and President of the American Association of Railway Surgeons. He received honors from overseas, such as honorary fellowship in the Royal College of Surgeons (England) in 1913; life membership in elite surgical societies in Germany and France; and a Doctor of Science degree from the University of Sheffield, England, in 1908. He was a prominent Catholic layman, and he received degrees and medals from St. Ignatius College, Notre Dame and the Catholic University of America. Shortly before his death he received from His Holiness Pope Benedict XV the order of Knighthood and the of than your own career. Your most careful thought must be for the patient. If you perform a new operation, do not do it for the first time on the patient. Do it on the cadaver and on the dog. If I had to state where I acquired the greatest amount of technical knowledge, where I received the greatest benefit in the way of gaining confidence in my own operative procedures, I should say that practically all of it was acquired from operations on the dog and a smaller percentage from operations on the cadaver. Still there is no new operation of any severity or gravity, even now, that I do not perform first on the cadaver. Such practice will give you confidence in yourself when you operate on the patient and will increase your fitness to serve the best interests of the people. When you ask yourself what is still left to be done in research, remember that nothing has been done compared to what is left in this enormous realm. Every day men come to me and ask, 'What can I do?' There is scarcely any field of surgical work in which there is not a tremendous amount to do, and which can lead to reputation and to personal and professional advancement."

Murphy was a magnificent operating surgeon. When he and his assistant James Neff worked as a team, ligatures, sutures, forceps and retractors were always in the right place at the right time. The brains and fingers of surgeon and helper clicked in machine-like accuracy of movement. After watching him operate, students and young doctors became enthusiastic and wanted to become surgeons. To these aspiring young surgeons he gave the following advice:

"In learning to operate, first plan to do regularly some experimental dog work and do it with the same care that you would use on the human patient and with the same consideration for the feelings of the dog so far as pain is concerned; and after the operation give the dog the same care as a patient. I have said of my dogs that they received as much nursing and attention as my patients.

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Not only was Dr. Murphy interested in undergraduate education, but he was greatly concerned with the level of medical practice in his time and was prominent in all movements to establish scientific societies, meetings, lectures and postgraduate courses for physicians.

I (K. A. M.) remember that, shortly after I became Medical Superintendent of the County Hospital, Dr. Franklin H. Martin and Dr. Murphy, with the financial backing of a great philanthropic organization, wished to establish a large postgraduate school in connection with the Cook

County Hospital. The organization agreed to finance this undertaking, provided all the medical colleges would cooperate. A meeting was called by Dr. Martin of the heads of the various medical schools and other civic leaders. I was directed by the President of the Cook County Board of Commissioners, Mr. Peter Reinberg, to represent the Board at the meeting and was given the privilege of entering into negotiations to establish the school. I remember that we were sitting around chatting, waiting for the meeting to start. Murphy was the last to arrive. One could feel the presence of a dynamic personality as soon as he walked into the room. At the meeting he spoke of the great need for a graduate center in Chicago and especially of the excellent facilities the Cook County Hospital could offer such a school. At the meeting all agreed to the establishment of the school, but later certain prominent medical men saw fit to present another proposition to the Philanthropic Foundation officials, who, finding no unanimous support for the school at Cook County Hospital, withdrew their offer.

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Collar and Cross of the Order of Saint Gregory the Great. This was the first such honor to be bestowed upon a Catholic layman in Chicago.

In May 1916 Dr. Murphy suffered an attack of angina pectoris, at which time he said, "I do not want to linger after my work is done." His wish was granted, and on Aug. 11, 1916, at the age of 58, he died while vacationing in Mackinac Island, Michigan.

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Medical education in [John] Hunter's day was a thing of shreds and patches, with something of the roving minstrel about it too. Students wandered about from one university to another in search of such teaching as they could come by—and it was generally anatomical. Oliver Goldsmith, after listening to Monro in Edinburgh for eighteen months, went on to Leyden and from there tramped through Western Europe to the famous medical school of Padua, with no better equipment than a flute and a tolerable voice with which to earn board and lodging. Akenside, the poet physician of St. Thomas's Hospital, had gone to Leyden only a few years before, and another contemporary physician, Askew, a classical scholar and collector of Greek manuscripts, had done the same. Medical degrees were not difficult to obtain and the universities seem to have granted them freely. Witness Goldsmith's early acquisition of one. A distinction between the Medici Physici or graduate physicians and the Medici Vulnerum or surgeons had existed, however, since medieval days. Side by side with these ancient universities and the Royal College of Physicians, who had been the pioneers in medical education, were the medical and surgical guilds of the Society of Apothecaries and the United Company of Barbers and Surgeons, who were primarily concerned with the education and control of the student apprentice. Examinations were probably not obligatory except for the universities and for the Army and Navy, and for men practising in towns where the guilds held sway.

—*Gloyne*

American Medicine and the Great White Fleet for Peace

EDWIN J. GRACE, M.D., F.A.C.S., F.I.C.S., D.A.B.

NEW YORK CITY, NEW YORK

THE laudable desire to aid the cause of world peace through modern medical practice is being brought to realization in the United States in two major projects: (1) the Great White Fleet (described as a "floating medical center to Southeast Asia") and (2) the Health for Peace bill. If these two proposals are carried out correctly, the result could be a successful application of our often confused but well-intentioned foreign aid policies by producing an effective international program of health for peace.

I venture to suggest, however, that both projects, but especially the Great White Fleet with its floating medical center, should be carefully appraised in the light of American experience with the use of antibiotics.

In spite of the early warning to the medical profession by Florey in World War II, later reaffirmed by our geneticists, physicians have remained indifferent to the phenomenon of bacterial mutation in the struggle for survival. In other words, resistant bacterial strains emerge when the use of single antibiotics alters the micro-evolutionary environment.

From research on penicillin resistant cultures, while working under contract for the Technical Division of Chemical Warfare in World War II, Dr. Vernon Bryson and his associates set forth biogenic principles of therapy for "military and civilian casualties." Another clinical warning was sounded in an editorial, "Penicillin Resistance," published in the *Journal of the American Medical Association* of March 4, 1945, appraising Demerec's research in bacterial genetics. Other papers followed which described simple clinical technics that would prevent the emergence of resistant bacteria. These genetic landmarks in the treatment of infectious diseases have also been confirmed clinically both here and abroad, but mostly by clinicians in India, France, Holland, the Philippines and Poland.

The present emergence of resistant strains is a repetition of the micro-evolutionary phenomenon that followed the earlier use of salvarsan and sulfa. At the same time penicillin went into mass production; however, geneticists discovered that resistance could be prevented by the use of *combinations* of antibiotics. This biogenic contribution, when fully understood and integrated clinically, may rank as medicine's greatest advance in the midtwentieth century.

Although we unwittingly ignored the clinical significance of resistant bacterial strains emerging from the changed environment we brought about in the microbial world, we are morally responsible for the dissemination and perpetuation of this microbial pestilence, which is now reaching grave proportions in the United States. Further spread of these lethal organisms across international boundaries must be prevented. In the long history of man and in the comparatively short history of American medicine, the physi-

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Submitted for publication May 7, 1960.

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cian here has never been confronted with so grave a responsibility.

This is man's first encounter with an invisible world of bacterial mutants which he himself has produced, and to survive he must learn to control this world and stop its further expansion. Never in the recorded history of medicine has the profession been faced with a problem of such frightening dimensions. The geneticists warned us of the dangerous consequences of mutation, and we have all witnessed in the past decade the tragic effects of this biogenic law at work.

Man has now reached a point in his evolution where he controls all life on this planet except himself and the newly emerging microbes. Unfortunately, we opened a Pandora's box of pestilence more than a decade ago when medicine began its wholesale use of antibiotics. Now, American medicine, with its innate humanitarianism, must implement and proselytize biogenic principles of antibiotic therapy for the sake of peace and survival. If the Great White Fleet carries out its humanitarian mandate according to sound genetic concepts, as a force for peace through international health, it can be of immeasurable value to all mankind.

In 1643, Edward Stafford of London sent to the elder Governor Winthrop an eight page manuscript of "Recipts to Cure Various Disoders," largely taken from the herbal of John Gerard, published in revised edition in 1633. Among the suggestions were the following.

> My Black powder against the plague, small pox: purples, all sorts of feavers; Poyson; either by Way of prevention, or after Infection. In the Moneth of March take Toades, as many as you will, alive; putt them into an Earthen pott, so that it be halfe full; Cover it with a broad tyle or Iron plate; then overwhelme the pott, so that the bottome may be uppermost: putt charcoales round about it and over it, and in the open ayre, not in an house, sett it on fire and lett it burne out and extinguish of it selfe: When it is cold, take out the toades; and in an Iron-Morter pound them very well, and searce them: then in a Crucible calcine them so againe: pound & searce them againe. The first time, they will be browne powder, the next time black. Of this you may give a dragme in a Vehiculum (or drinke) Inwardly in any Infection taken: and let them sweat upon it in their bedds: but lett them not cover their heads; especially in the Small pox. For prevention, halfe a dragme will suffice: moderate the dose according to the strength of the partie: for I have sett downe the greatest that is needfull. There is no danger in it. Let them neither eate nor drinke during their sweat, except now and then a spoonfull of Warme posset-drinke to wash their mouthes. Keep Warme and close, (for a child of 5 years, 10 graynes is enough in infection, for prevention 4 or 5 graynes.) till they be perfectly well; and eate but litle; and that according to rules of physicke.
>
> The same powder is used playster wise with Vineger for a gangrene, or bite of anie Venemous beast, taking it likewise Inwardly: it is used likewise for all Cankers, Fistulas & old Ulcers & kings Evill, strewing it upon the sore, and keeping them cleane.

—*Blake*

New Books

BOOKS RECEIVED

The following books have been received by the Editor; they will be reviewed critically as space and facilities permit. Omission of more extended review, however, is not to be taken as criticism of the merit of the book.

Conférences D'Actualités Pratiques: Actualités Médico-Chirurgicales: Oblitérations Artérielles (Membres inférieurs); Thérapeutique des Prolapsus Génitaux, Recto-Colite Muco-Hémorrhagique (Medical-Surgical Conferences on Current Practice: Arteritis Obliterans of the Lower Extremities, Treatment of Genital Prolapse, Mucoid Hemorrhagic Colorectitis). By R. Fontaine, G. Cordier, A. Busson, and J. Mialaret. Paris: Masson et Cie, 1958. Pp. 188, with 40 illustrations. *Reviewed in this issue.*

Industrial Carcinogens. By R. E. Eckhardt. New York: Grune & Stratton, 1959. Pp. 164, with 43 illustrations. *Reviewed in this issue.*

Langenbeck's Archiv fuer Klinische Chirurgie (Langenbeck's Archives of Clinical Surgery). Berlin, Goettingen and Heidelberg: Springer Verlag, 1959. (Report on the 1959 Congress.) Vol. 292. Pp. 914, with 454 illustrations. *Reviewed in this issue.*

Christopher's Textbook of Surgery. Edited by Loyal Davis. Philadelphia: The W. B. Saunders Company, 1960. 7th ed. *Reviewed in this issue.*

Functional Bracing of the Upper Extremities. By Miles H. Anderson. Springfield, Ill.: Charles C Thomas, Publisher, 1958. Pp. 463. Illustrated.

Klinische Chirurgie fuer die Praxis (Clinical Surgery for the Practice). By O. Diebold, H. Junghanns and L. Zukschwerdt. Stuttgart: Georg Thieme Verlag, 1959, vol. 1, Pt. 1. Pp. 184, with 90 illustrations. *Reviewed in this issue.*

Spinal Cord Compression. By I. M. Tarlov. Springfield, Ill.: Charles C Thomas, Publisher, 1957. Pp. 147, with 41 illustrations.

Le risque operatoire en chirurgie bilio-pancreatique (The Operative Risk in Biliary Surgery). By Yves Salembier. Paris: Masson et Cie, 1959. Pp. 260, with 2 illustrations.

Le Diagnostic du Cancer d'Estomac a la Periode Utile (Diagnosis of Carcinoma of the Stomach at the Time Most Favorable for Treatment). By Rene A. Gutmann. Paris: G. Doin et Cie, 1956. Pp. 257.

Operative Surgery. Edited by Charles Rob and Rodney Smith. London: Butterworth & Co., Ltd.; Philadelphia, F. A. Davis Co., 1956. Vols. 1 and 2 of 8 (plus index). Profusely illustrated.

The Clinical Management of Varicose Veins. By David Woolfolk Barrow. New York: Paul B. Hoeber, 1957. Pp. 167, with 70 illustrations.

Pathology and Surgery of the Veins of the Lower Limbs. By Harold Dodd and Frank Cockett. Baltimore: The Williams & Wilkins Company, 1957. Pp. 462, illustrated.

The Surgeon's Tale: The Story of Modern Surgery. By Robert G. Richardson. New York: Charles Scribner's Sons, 1959. Pp. 227, with 45 illustrations.

History of American Medicine. Edited by Felix Marti-Ibanez. New York: MD Publications (MD International Symposia), 1959. Pp. 181.

The Surgical Treatment of Facial Injuries. By Varaztad Hovhannes Kazanjian and John Marquis Converse. Baltimore: The Williams and Wilkins Company. 1959.

titioner" and the foreign physician unable to attend the sessions in Paris.

The first chapter (René Fontaine, P. Warter, M. Kim, and R. Kieny) deals with the surgical treatment of chronic arterial occlusion and spontaneous arteritis of the lower extremities. The authors have made a profound study of spontaneous, slow and progressive occlusion of the arteries, each of which develops insidiously and all of which are finally manifested by symptoms of circulatory deficiency. The indications for operation are complex. Each patient is treated as an individual problem, on the basis of health, age (usually advanced), generalized disease (in spite of limitation to affected extremity), clinical stage of local symptoms, extent of occlusion, etc. The authors envision greater understanding of the causes of arteritis obliterans and point out that surgical intervention, including arteriectomy and lumbar sympathectomy, has made great strides in relieving patients not benefited by medical treatment.

The second chapter, on genital prolapse, is presented by G. Cordier, in collaboration with Thoyer-Rozat and J. Sénèze, who have had wide experience and have written a scientific exposé of one of the oldest problems in surgery. The authors emphasize the necessity of meticulous clinical examination to localize anatomic and functional disturbances, which will help determine the type of operation to be performed. (The "triple opération française" and that of Lefort are outmoded.) They report on 100 operations that reflect the present-day trend: 28 colporrhophies, 12 amputations of the uterine cervix, 26 colpohysterectomies, 14 vaginal hysterectomies, 2 aponeurotic suspensions for hernia of the vagina, etc. Detailed study to ascertain the reasons for recurrence in each case enhances successful surgical treatment.

The third chapter is devoted to medical and surgical treatment of mucoid hemorrhagic colorectitis. André Busson, who writes the portion on medical treatment, points out that this more or less grave disease of long duration and variable clinical course should first be treated medically, except for the subacute type. Failure of medical treatment is an indication for surgical intervention. Since 1933 the author, in collaboration with Jean Rachet, has noted failure of medical treatment in 18 per cent of a total of 532 cases. In these the patients were treated by appendicostomy, cecostomy and ileoileostomy with or without total colectomy. Surgical treatment, indications for operation, technic and results are discussed by J. Mialaret. Indications for operation in treating acute and chronic forms of mucoid hemorrhagic colorectitis and peritonitis are clearly defined. Total resection of the colon (3 stages) with ileorectal anastomosis, subtotal colectomy with abdominal ileoileostomy, and segmental colectomy are described. The author is well aware of the problems associated with these interventions, the difficulty of choosing the type of operation and the complicated postoperative course. He presents results obtained in spite of the grave nature of these procedures, which may be the last resort for relief. In closing, he quotes Garlock: "There are few afflictions about which we talk so much and of which we know so little."

These conferences, presented by the Faculté de Médecine de Paris on arterial occlusion of the lower extremities, genital prolapse and mucoid hemorrhagic colorectitis, are well illustrated by arteriograms, roentgenograms, tables, drawings of operations, etc. It is not a treatise, but it contains valuable information concerning the pathologic aspects and most recent treatments of these conditions.

CHARLES PIERRE MATHÉ, M.D.

Langenbeck's Archiv fuer Klinische Chirurgie (Langenbeck's Archives of Clinical Surgery). Berlin, Goettingen and Heidelberg: Springer Verlag, 1959. (Report on the 1959 Congress.) Vol. 292. Pp. 914, with 454 illustrations.

This is the report of the meeting of the German Society for Surgery in Munich in April 1959, the outstanding annual meeting of surgeons in the German-language area.

The first day of the meeting was concerned with problems and questions of operability and the general condition of the surgical patient, with special regard to circulatory and respiratory conditions, the physiochemical status of the liver and kidney and the influence and control of the vegetative nervous system. Postoperative control of the electrolytes, nutrition of patients freshly operated on and postoperative treatment after extensive gastrointestinal resection were discussed in detail.

The meeting of the second day covered the treatment of peripheral vascular diseases, embolectomy and the different types of sympathectomy.

A whole day was devoted to the problem of pancreatic necrosis and acute pancreatitis. The incidence of these diseases has increased rapidly in the past years in Germany, after they had almost disappeared in the lean war years and the postwar period. At the University Hospital in Marburg, Germany, the annual number of these cases increased from 2 to 26. The treatment is mainly nonsurgical. Treatment of shock, prevention of infection by use of antibiotics and attempts to reduce or block the secretion of the pancreas by atropine, antitryptic substances and continuous Levine suction are the methods used.

In parallel meetings, numerous papers on thoracic surgery and plastic and cosmetic surgery showed the rapid progress these specialties have made in Germany.

The program of this congress shows that surgery has now become an international science and that surgical problems and interests are identical for surgeons the world over.

A. ROBERT FUCHS, M.D.

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If, then, a nation requires that its surgeons should be first class, what can we call first class in this particular respect? A first-class surgeon must be a first-class man, but a first-class man will not necessarily make a first-class surgeon. A preliminary selection is therefore advisable, so that our future surgeons may be drawn from a body of men representing the ablest stratum of their age-group. This selection is made in the English Fellowship, and will shortly be made in the Scottish one, by a preliminary examination. In so far as this acts as a sieve, eliminating the plodders and reducing the entrants for the final examination to numbers that can be assessed thoroughly and fairly, it is good; but in so far as it is vocational in type, and demands not merely a minimum quantity but a certain quality of ability in future surgeons, it is bad. Surgery needs men of every kind—philosophers, dreamers, and poets as well as teachers, and men of action—and even the present much improved primary examination sets a premium on a retentive memory and takes little heed of originality.

—*Ogilvie*

Abstracts from Current Literature

An Evaluation of Special Problems in Arterial Embolism. Haimovici, H., Arch. Surg. 80: Sept. 1, 1960

The classic clinical picture of an arterial embolism is a combination of events consisting of a sudden arterial occlusion and a thrombogenic cardiopathic condition. The author reevaluates the problem on the basis of twenty-five years of personal experience with a large number of cases, with special attention to certain problems associated with arterial embolism and emphasis on their practical significance.

1. *Emboli Without a Detectable Source of Thrombosis:* Sudden arterial occlusion occurring in the absence of any clinical or electrocardiographic evidence of heart disease is usually diagnosed as acute arterial thrombosis. This, however, may be oversimplification of a diagnostic concept. In 11 per cent of the author's cases the original diagnoses was acute arterial thrombosis, but it was later proved that embolic phenomena, with the site of infarction in the myocardium, were responsible. Additional evidence and support of the diagnosis of embolism may often be obtained at operation, which may disclose two types of clot. One is well organized, small, firm and reddish or whitish. This is the embolus. The other is soft, dark blue and much longer than the first. This is the secondary thrombus. Also, lack of adherence of these clots to the intima, as revealed by their ease of extrusion from the artery, may be significant. These observations, plus restoration of arterial patency, are highly suggestive of an embolic and not a thrombotic occlusion.

2. *Incomplete Embolic Occlusion:* There are cases in which the embolus only incompletely blocks the lumen. Such an embolus lies between small emboli, often remaining undeteted, and major emboli, which result in massive occlusion. Incomplete embolic occlusion may result in periembolic thrombosis, or the embolus may migrate and lodge at a distal bifurcation. Naturally, such an embolus is accompanied by shifting symptoms.

3. *Multiple Emboli to the Same Extremity:* In 7 cases the author operated on patients with 2 emboli to the same extremity. In 5 of these the occlusions were recent, and in 2 one of them was old. In 6 of these only the proximal embolism was diagnosed. The distal occlusion, however, was recognized immediately after completion of the proximal embolectomy in 5 cases and seven hours later in 1. If, after removal of the embolus and its secondary thrombus, retrograde flow is absent or scant, it becomes imperative to explore the next distal bifurcation. Failure to discover the existence of multiple emboli may be responsible for the unsuccessful results of many embolectomies.

4. *Embolic Occlusion Superimposed on Arteriosclerosis Obliterans:* It is not unusual for embolic occlusion to occur in patients with preexisting peripheral arteriosclerosis obliterans. This may present special diagnostic and surgical problems. Naturally, the manifestations in such cases will depend on the site and extent of the occlusion and on the effect that the embolic occlusion will exert on the collateral circulation.

5. *Late Arterial Embolectomy:* Although it is generally accepted that embolectomy performed after twelve hours is usually futile, the author reports excellent results in a limited number of delayed cases. The factors that determine the success of late embolectomy are: (1) the relative lack of damage of the intima; (2) the nonadherence of the embolus and secondary thrombus to the intima; (3) the patency of the distal arterial tree prior to embolization, and (4) pretreatment with anticoagulants. The underlying cardiovascular disease may also influence the outcome. Repeated embolectomy is discussed, as is the relation of embolism to mitral surgery. The chief dangers of mobilization of thrombi from a mitral procedure are cerebral location, which carries the highest morbidity and mortality rates, and delayed recognition of an embolism of the aorta or of the major peripheral arteries.

Long-term anticoagulation after recovery from an embolic episode is discussed. Clinical experience with long-term anticoagulation therapy in the prophylaxis of thromboembolic conditions seems encouraging.

JAMES H. ERWIN, M.D.

Subisthmic Aortic Stenosis and Occlusive Disease. Morris G. C. Jr., De Bakey, M. E., Cooley, D. A., and Crawford, E. S., Arch. Surg. 80:95, 1960.

The authors report 21 clinical cases of aortic obstruction involving the lower thoracic and abdominal segments of the aorta, immediately beneath the diaphragm and again immediately above the aortic bifurcation.

The lesions are considered three separate entities, owing to the peculiar symptoms associated with occlusion at each of the levels aforementioned. Stenosis of the lower thoracic segment of the aorta has been associated with a high grade of claudication of the lower extremity, and minimal development of collateral circulation. Murmurs, when present, are audible at a thoracic level. Pathologically, the lesions are of greater linear extent than are the typical coarctation, frequently are not well demarcated externally and present, in addition, an unusually severe pseudoinflammatory reaction about the area of involvement.

Stenosis of the upper abdominal portion of the aorta, involving, as it does, the renal arteries to a variable extent, has been observed in association with extremely severe hypertension and a tendency to deterioration early in the course of the disease. Cardiac failure and uremia are the prominent clinical manifestations. In this area surgical benefits may be limited entirely by the process itself as related to involvement of the renal arteries. Again, pathologic features of the lesion in this area are somewhat peculiar and suggest that the cause is still unknown, at this time.

Stenosis in the lower abdominal portion of the aorta, nonatherosclerotic, was associated with no significant hypertension in most cases but with severe claudication of the lower extremity. These lesions tend to be somewhat limited in linear extent and lend themselves well to therapy by endarterectomy.

Experiences with several cases in each of the divisions described are reported in some detail, and several recommendations are made. First, it is suggested that this type of obstructing lesion of the aorta distal to the usual site of coarctation be suspected and sought for in cases of unexplained hypertension, renal disease or claudication; particularly in persons who have otherwise enjoyed normal health and who are somewhat young. Careful auscultation of the descending thoracic and abdominal portions of the aorta may reveal suggestive bruits, and a careful history and physical examination may be highly suggestive. It is emphasized that adequate aortographic study is mandatory, not only to arrive at a positive diagnosis but to delineate the lesions' extent in order to plan therapy.

Resection with Dacron graft replacement has been satisfactory for lesions low in the thorax, while the by-pass principle has been most suitable for the high abdominal occlusions and endarterectomy for the lower (and shorter) occlusions under discussion.

With the diagnostic and therapeutic methods outlined, 18 of the 21 patients in the authors' series have been remarkably benefited by surgical intervention.

CHURCH E. MURDOCK, JR., M.D.

Surgical Possibilities in Mitral Insufficiency (Les Possibilities Chirurgicales dans l'Insuffisance Mitrale). Vernejoul, De R., Henry, E., Courbrier, R., and Monties, J., Presse Med. 67:1391, 1959.

Three technics are used experimentally for the repair of mitral insufficiency:

1. Reconstructive methods.
2. Purse-string technic.
3. Plastic repair of the valve, with partial occlusion of the mitral orifice.

The various modifications of these technics have not proved satisfactory in clinical application.

The purse-string suture was used by Glover

Palliative irradiation is conceivably justifiable in a small number of selected cases of squamous cell carcinoma.

Nitrogen mustard and other chemotherapeutic agents should be used, if at all, only in long-range experimental studies, especially since recent information indicates that such therapy may enhance, rather than retard, a malignant growth.

The author is convinced, like Moynihan, Lahey, Walters and many others, that cholelithiasis, in the absence of contraindications, calls for cholecystectomy, whether symptomatic or asymptomatic. This opinion is not held because of the threat of carcinoma, but because of the threat of all complications. Further, the older the patient, the stronger is the indication for surgical intervention.

Carcinoma of the gallbladder continues remarkably resistant to all therapy. In the absence of effective surgical treatment for all but the earliest lesions, the best hope at present for reducing the mortality rate of this disease lies in early cholecystectomy for patients with known benign disease of the gallbladder.

WILLIAM E. NORTH, M.D.

Present Status of Radioactive Gold Therapy in Management of Prostate Cancer. Flocks, R. H; Culp D. A., and Elkins, H. B., J. Urol. 81:178-183, 1959.

The authors discuss the result of radioactive gold therapy in 517 cases of carcinoma of the prostate, locally inoperable without distant metastases.

The technic of treatment is outlined. In the therapy of these patients, certain pathologic and anatomic considerations proved important: (1) the lesion within the genital envelope; (2) the lesion in the periprostatic, perivesicular and perivesical regions; (3) the lesion in the pelvic nodes, and (4) the lesion along the lymph passages.

Because the destruction of grossly involved nodes could not be satisfactorily accomplished by direct injection of the gold, they have dissected the pelvic nodes where possible, and gold was used over the area, into the areolar tissue.

Of the first 135 patients followed for five years, 32, or 34 per cent, are alive. The mortality and morbidity rates were low and complications few with this type of therapy.

SHEPARD JEROME, M.D.

Paget's Disease of the Breast. McGregor, J. K., and McGregor, D. D., Surgery 45:562, 1959.

Paget's disease of the breast is uncommon. It has characteristic histopathologic features and is usually associated with an intraductal carcinoma of the breast. It generally appears as an eczematous lesion of the nipple or areola and may be ignored or treated as a benign lesion for many months before the diagnosis is finally established. The salient features of 21 cases of Paget's disease of the breast encountered in a general hospital over a period of twenty years are briefly presented in this study.

EDMUND LISSACK, M.D.

Emergency Cecostomy in Ulcerative Colitis with Acute Toxic Dilatation. Klein, S. H., Edelmah, S., Kirschner, P. A., Lyons, A. S., and Baronofsky, I. D., Surgery 47:399, 1960.

Attention has been directed in recent years to an acute and often ominous complication that may occur in the course of nonspecific ulcerative colitis. It consists of segmental or universal dilatation of the diseased colon, with severe toxemia and signs of impending or actual perforation.

A series of 3 cases of acute toxic dilatation of the colon treated by simple decompressing tube cecostomy as an emergency procedure is admittedly too small to permit definite conclusions as to the applicability and efficacy of the procedure. The successful results obtained, however, would seem to warrant further clinical trial. It is suggested as a safe and simple means of deflating and draining the distended colon in order to decrease toxic absorption, forestall perforation, and perhaps permit more secure walling off of a perforation partially or tenuously sealed by fresh inflammatory adhesions.

Compared with radical extirpation of the colon, the operative trauma to an already very ill patient is minimal. Moreover, should colectomy become ultimately necessary, it may be acomplished with greater safety as an elective procedure after the patient has been tided over the acute episode.

It is problematic at present whether the procedure is applicable after actual free perforation has occurred, with resultant pneumoperitoneum and spreading peritonitis. Notwithstanding, however, the operative difficulties and the risk this critical situation requires extirpation of the perforated viscus in order to control the peritoneal infection.

In the authors' opinion cecostomy for decompression is preferable to ileostomy in the presence of acute toxic dilatation of the colon. Although ileostomy will accomplish diversion of the fecal stream and prevent the further addition of gas and fluid to that already trapped in the colon, it will not necessarily reduce the intraluminal colonic pressure sufficiently to forestall perforation or decrease absorptive toxemia. The wall of the colon in an advanced stage of muscular atony due to ulcerative destruction may be unable to expel accumulated gas and infected fluid, either retrograde through the ileocecal valve, even if incompetent, or forward through the distal portion of the bowel. The situation may be likened to that observed in a closed loop obstruction. Interference with the circulation of the bowel due to increased intraluminal pressure and destruction of the bowel wall due to necrosis and ulceration are factors that lead to the danger of perforation. The loss of fluids and electrolytes into the intestinal lumen, plus the toxic absorption through the denuded mucosal surface, adds to the ominous clinical deterioration of the patient. Only by prompt and adequate decompression and drainage of the dilated colon can the toxic absorption be effectively alleviated and perforative complications prevented in this dangerous situation. For patients "conditioned" to tolerate an extended variant of the operation, a double duty might be accomplished by adding a complemental tube or end-on ileostomy to the cecostomy.

WILLIAM E. NORTH, M.D.

Histochemistry of Gynecologic Cancer. Gross, S. J., Kinzie, G., and Chang, N., Obst. & Gynec. 14:43, 1959.

An analysis of studies conducted by these authors has led them to the conclusion that chemical activity, by and large, is specific for the particular tissue but not for neoplasia as such. Although data on cytologic material are incomplete, careful observation tends to confirm this. As yet there is no known metabolic *distinction other than the crucial observation* that normal growth ceases and the growth of carcinoma does not.

Although the alteration of growth unique to carcinoma remains unexplained, the chemical patterns of normal and malignant tissue are slowly but definitely becoming clarified.

EDMUND LISSACK, M.D.

A Goniometric Study of the Human Foot in Standing and Walking. Karpovich, P. V., and Wilklow, L. B., U. S. Armed Forces M. J. 10:885, 1959.

The object of the authors' investigation was to study changes in the extent of pronation and supination of the foot under various conditions during standing and during walking. Since a previous investigation had shown that the extent of pronation and supination can be found by measuring the angle formed by the lower part of the leg and the calcaneous, angle C was utilized in the present study.

1. *The Foot in Standing.*—The supinating effect of footgear with conventional and functional insoles was compared in subjects standing on a horizontal plane. With conventional insoles there was 5.4 degrees of supination, whereas the functional insoles produced 6.4 degrees. The difference, however, was not statistically significant. In subjects standing on inclined planes adjusted at 5, 10, 15 and 20 degrees of pronation, the functional insoles caused no statistically significant supinating effect. The need of an increase in supination for everybody was questioned.

For a diagnostic examination, a distance of 10 inches (25 cm.) parallel feet is preferred because angle C at that position tends to be zero; therefore, deviations may be more easily observed. During an examination the body weight should be evenly distributed, because shifting weight to one foot increases pronation in that foot. The manual goniometer for measuring angle C is described. The use of this instrument should supplant the time-consuming photographic method, since its accuracy is high. The difference between the means obtained with photographic and goniometric methods was 0.2 degree and the coefficient of correlation 0.96.

2. *The Foot in Walking.*—An electrogoniometer was developed as an aid in studying the foot in walking. This instrument can be used for automatic recording or quick direct measuring of angle C.

A typical angle C curve consists of two arcuate dips. One is shallow, corresponding to the air phase during which the foot travels through the air, and the other a deep one, corresponding to the ground phase. In most persons angle C is in pronation. The right foot is more pronated than the left foot. Toeing out increases and toeing in decreases pronation. Angle C was the same for speeds of 2.39 and 3.52 miles per hour. Increase in length of step increased pronation. Angle C was the same when subjects walked on treadmill and on the floor.

Electrogoniometers for other joints are being developed. The development of the electrogoniometer has opened a new avenue for study of normal and abnormal joints in motion.

WILLIAM E. NORTH, M.D.

Las metastasis oseas de los canceres del colon y del recto (Bone Metastasis in Colonic and Rectal Carcinoma). Delannoy, E., and Martinot, M., Presse med. 67:1, 1959.

Four cases of bone metastasis secondary to colon and rectal carcinoma are described. Carcinoma of the sigmoid was observed in 2 patients, carcinoma of the rectum in 1 and carcinoma of the ascending portion of the colon in a fourth.

Bone metastasis was observed in the lumbar and cervical portions of the spine in the patient with sigmoid carcinoma, whereas the scapula and humerus were involved in the patient with carcinoma of the rectum. The patient with carcinoma of the ascending portion of the colon showed rib metastasis and the clavicle and skull were invaded by carcinoma. The primary source was the sigmoid.

In 2 instances metastasis appeared four years after the radical operation, and no other manifestations of metastatic lesions were found.

From the evidence presented, bone metastasis secondary to colonic and rectal carcinoma, is less rare than is generally admitted, a fact that could be ascertained if autopsies and systematic bone investigations were performed at the terminal stage of the disease.

JOHN A. ZIEMAN, M.D.

Clinicopathologic Correlation in Thromboembolism. Coon, W. W., and Coller, F. A., Presse med. 67:259-268, 1959.

This paper provides an excellent summated review of present-day knowledge of thromboembolism, with emphasis on the inadequacy of diagnosis of underlying pathologic conditions and the consequent reflection of this error in statistical evaluation of the clinical significance of pulmonary embolism with or without infarction.

This is a logical communication, well organized and of considerable value to any clinician. It is recommended that it be read in the original.

CHURCH E. MURDOCK JR., M.D.

Esophagitis Following Total Gastrectomy. Helsingen, N. Jr., Acta chir. scand. 118:190, 1959-1960.

It is generally conceded that esophagitis occurs in patients after total gastrectomy. It is probably related to the regurgitation of duodenal contents into the esophagus.

In a series of 9 patients, 6 men and 3 women, who had undergone radical total gastrectomy for carcinoma five to nine years earlier, there were no signs of recurrence of the tumor. The patients were all in fairly good condition at the time of the follow-up investigation. Esophagitis, however, was present in 8 of 9 patients studied.

Although the history indicated the presence of esophagitis, the final appraisal must be based on more objective diagnostic criteria. Roentgen investigation alone is adequate for patients with uncomplicated esophagitis. The only adequate diagnostic method is the esophogoscopic.

Symptomatic medication with various medicaments has proved little better than valueless. Surgical intervention is resorted to in the hope of complete elimination of postgastrectomy esophagitis. The regurgitation of duodenal contents, however, is probably of the greatest importance, and many surgical methods have been devised with the aim of deflecting the intestinal secretions from the esophagus. The efficiency of these methods has not been completely established.

JOHN A. ZIEMAN, M.D.

Myocardial Flap Technic for the Correction of Tetralogy of Fallot. Longmire, W. P. Jr., Mulder, D. G., and Maloney, J. V. Jr., Surg., Gynec. & Obst. 109:645-646, 1959.

The authors describe an ingenious technic for simultaneous correction of infundibular stenosis and ventricular septal defect as occurring in the tetralogy of Fallot.

An inverted U incision is made in the infundibular ring of the posterior wall of the right ventricular outflow tract as seen through a right ventricular cardiotomy. Dissection then proceeds to develop a flap based along the crista supraventricularis, which is then turned downward and sutured into the ventricular septal defect. Further excision of the infundibular muscle completes the combined repair.

The technic is employed with extracorporeal circulation and cardiac arrest by the Melrose technic. Its application is limited by the actual configuration of the various defects encountered but has been found feasible for approximately half of the patients operated on by the authors. The advantages cited for this technic are technical ease of performance and rapidity of completion without the necessity of leaving a foreign body within the heart.

One patient who failed to survive the procedure, examined post mortem, was observed to have satisfactory healing, and the technic apparently contributed in no way to the patient's demise.

CHURCH E. MURDOCK JR., M.D.

Regional Lympnodectomy as an Adjunct to Radiation Therapy of Carcinoma of the Cervix. Kimbrough, R. A., Southern M. J. 52: 674, 1959.

Radiation therapy and surgical management of carcinoma of the cervix are not in competition. There are indications for each, and in some cases a combination of the two may be used to advantage.

This report proposes surgical removal of the regional lymph nodes as an adjunct to radiation therapy for carcinoma of the cervix.

EDMUND LISSACK, M.D.

Great men and insignificant men have like accidents, like vexations, and like passions: but the former are on the outside of the wheel, and the latter near the centre, and are therefore less agitated by the same movements.

—*Pascal*

IMPORTANT ANNOUNCEMENT

Contributors of scientific articles for publication in The Journal of the International College of Surgeons from Europe, the Near East and the Middle East should send their articles to:

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A special committee has been appointed to evaluate the papers submitted for publication. The Journal publishes summaries in English, French, German, Spanish, Italian and Portuguese. Summaries of articles should be included in as many of these languages as possible.

AVIS IMPORTANT

Les auteurs d'articles scientifiques destinés à être publiés dans le Journal du Collège international de chirurgiens sont priés d'adresser leurs articles à l'adresse suivante pour l'Europe, le Proche et le Moyen Orient.

Bureau Européen du
Collège international de chirurgiens
6-8 rue de la Confédération
Genéve (Suisse)

Un comité a été nommé pour l'examen des articles à paraître. Les auteurs sont priés de joindre à leur travail de brefs résumés en français, anglais, allemand, espagnol, italien et portugais si possible.

The Journal of the International College of Surgeons

Vol. 34, No. 1 SECTION II July, 1960

BULLETIN

Embodying Activities of the World Federation of General Surgeons and Surgical Specialists, Section News and Comments

Editor-in-Chief—PHILIP THOREK, M.D.
Associate Editor—MORRIS T. FRIEDELL, M.D.
Consulting Editor—MORRIS FISHBEIN, M.D.
Assistant Editors—DOROTHY LANGLEY AND HELEN WEISS

Dr. Max Thorek
FOUNDER
INTERNATIONAL
COLLEGE OF SURGEONS

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on July 1, 1960

Walter Franklyn James

M.D., F.A.C.S., F.I.C.S.

Rear Admiral, M.C., U.S. Navy (Ret.)

assumed the post of

Executive Director

of the College

Admiral James' office as Executive Director is at College Headquarters,
1516 Lake Shore Drive, Chicago, Illinois

Schedule of Meetings

INTERNATIONAL COLLEGE OF SURGEONS

1960

September 3 São Paulo, Brazil	Brazilian Section International College of Surgeons
September 18-November 11 Rear Admiral Walter F. James, M.C., U.S.N. Scientific Co-ordinator	Around-the-World Postgraduate Clinics Tour
September 28-29 Winnipeg, Canada	Canadian and United States Sections International College of Surgeons
October 8-9 Huy, Belgium	Belgian Section International College of Surgeons
October DeLeon, Nicaragua	Nicaraguan Section International College of Surgeons
November 1-2 Tokyo, Japan	Japanese Section International College of Surgeons
November 20-22 Las Vegas, Nevada	Western Section U. S. Section, International College of Surgeons

1961

January 30-February 5 Quito, Ecuador	Ecuadorian Section International College of Surgeons
May 14-18 Chicago, Illinois	North American Federation International College of Surgeons
November 19-22 San Francisco, California	Western Section International College of Surgeons

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WALTER FRANKLYN JAMES
M.D., F.A.C.S., F.I.C.S.

Rear Admiral, M.C., U.S. Navy (Ret.)
Executive Director, International College of Surgeons

Rear Admiral Walter F. James Assumes Duties as Executive Director of the International College of Surgeons

The International College of Surgeons is justifiably proud and happy to announce that on July 1, 1960, **Walter Franklyn James**, M.D., F.A.C.S., F.I.C.S., Rear Admiral, M.C., U.S. Navy (Ret.), assumed the position of executive director of the International College of Surgeons.

Dr. James has had a distinguished career in the medical corps of the United States Navy both during war and peace.

Since June 1955 he had been serving as District Medical Officer, Ninth Naval District, with headquarters at Great Lakes, Illinois. (The Ninth Naval District comprises the thirteen midwestern states, and the District Medical Officer and his staff are responsible for the administration of naval medical matters within this area, including close liaison with the twenty-one Class "A" medical schools and the medical students in attendance under navy auspices.)

Great Lakes is but a short distance from Chicago, and Dr. James, a Fellow of the International College of Surgeons, was able to maintain a close association with the College. Last December, upon the death of Dr. Ross T. McIntire, his predecessor in office at the College, he rendered it an unforgettable service of kindness. His generous help in making the decisions and arrangements called for at a time of such crisis was greatly appreciated.

Dr. James is a native son of Illinois. He was born in Bloomington and attended school in Danville. He holds the degree of B.S. from the University of Illinois and the M.D. degree (1926) from its College of Medicine. He has done graduate work in bronchoscopy and esophagoscopy at the Graduate School of Medicine at the University of Pennsylvania, Jefferson Medical College and the Temple University School of Medicine, and in surgery at the Naval Hospital in Philadelphia. He has also taken courses in surgery at the Mayo Clinic.

He was commissioned Lieutenant (jg) in the Medical Corps of the United States Navy in 1926, and was promoted to Lieutenant in 1932, to Lieutenant Commander in 1938, Commander in 1942, Captain in 1943, and Rear Admiral, with date of rank from July 1, 1953.

Reporting for active duty in the Medical Corps of the Navy in June 1926, he served a year's rotating internship at the U. S. Naval Hospital, San Diego, California, and the Los Angeles General Hospital, Los Angeles, California. He was then assigned as Junior Medical Officer of the USS Maryland. Following this duty, he was assigned as Division Medical Officer of Destroyer Division 45, operating in the Pacific. From February 1930 to November 1933 he served in the Surgery and Bronchoesophagology Divisions of Naval Hospitals at Great Lakes, Illinois, and San Diego, California.

A tour of duty at the U. S. Naval Hospital, Guam (November 1933-November 1935), in Medicine and Surgery, was followed by further duty in Surgery and Bronchoesophagology from April 1936 to May 1939 at the Naval Hospital, Philadelphia, Pennsylvania. Sea duty followed until January 1941 as Senior Medical Officer of the USS Wichita, operating in the Atlantic. When the United States entered World War II in December 1941, he was

Rear Admiral James and Mrs. James with Lieutenant James D. James, U.S.A. (Army and Navy with Liaison Officer)

The grandchildren, Randy, Tia, Brad and Julie, with t
Mrs. Robert C. James

The grandchildren with their father, Lieutenant Commander Robert C. James, U.S.N., and family mascot

Lieutenant James D. James, U.S.A. (
taken in Frankfurt, Germany

Mrs. James

on duty as Chief of Surgery and Bronchoesophagologist at the Naval Hospital, Naval Academy, Annapolis, Maryland, where he remained until September 1942.

He was next ordered to sea duty in the USS Rixey, a hospital transport, in which he served as Senior Medical Officer from September 1942 to March 1944, while that vessel operated against enemy Japanese forces in the Pacific war area. For meritorious achievement, he received a Letter of Commendation and was awarded the Bronze Star Medal. The citation states in part:

> . . . *Skilfully training and indoctrinating his medical staff of twelve medical officers, 65 corpsmen and crew, Captain James contributed materially to the success of the hospital transport in efficiently caring for great numbers of casualties. As a surgeon and consultant, he rendered invaluable service over prolonged periods of time in enemy-infested waters and was directly responsible for the low mortality rate among the sick and wounded on board his vessel. When necessity demanded, he volunteered to increase the Rixey's planned capacity for casualties from four hundred to over one thousand, thereby relieving the seriously congested forward combat areas during a critical period* . . .

From April 1944 to January 1945, Dr. James was Executive Officer of the two thousand two hundred bed Naval Hospital, Naval Operating Base, Norfolk, Virginia. He then reported for a tour of duty as Head of the Surgical Branch of the Bureau of Medicine and Surgery, Navy Department, Washington, D. C. Detached in July 1947, he returned to the Naval Hospital, Annapolis, where he served for two years as Executive Officer and on the Surgical Staff. On July 14, 1949, he was ordered to the two thousand eight hundred bed Naval Hospital, San Diego, California, as Executive Officer.

With the outbreak of hostilities in Korea, he was given his first command, reporting to the four thousand five hundred bed Naval Hospital, Yokosuka, Japan, as Commanding Officer in September 1950. He was awarded the Legion of Merit for "exceptionally meritorious conduct . . . (in that capacity) from 13 September 1950 to 15 November 1951 . . . " That citation states that he "labored untiringly in his efforts to insure adequate medical care for his patients and was directly instrumental in the success achieved by his organization (in caring for large numbers of casualties from the Korean theater, far in excess of the hospital's capacity)."

In February 1952 he reported as Commanding Officer of the two thousand eight hundred bed Naval Hospital, San Diego, California, with additional duty as Commanding Officer of the Hospital Corps School. He continued to serve in this capacity until February 1954, when he became District Medical Officer, Thirteenth Naval District, with headquarters in Seattle, Washington. In June 1955 he was assigned as District Medical Officer, Ninth Naval District, with headquarters at Great Lakes, Illinois.

In addition to the Legion of Merit and the Bronze Star Medal, Dr. James has the Ribbon for and a facsimile of the Navy Unit Commendation awarded the U. S. Naval Hospital, Yokosuka, Japan. He also has the American Defense Service Medal, Fleet Clasp; Asiatic-Pacific Campaign Medal; American Campaign Medal; World War II Victory Medal; Navy Occupation Service Medal; National Defense Service Medal; Korean Service Medal; United Nations Service Medal.

Dr. James is a member of Omega Beta Pi, Sigma Alpha Epsilon and Nu Sigma Nu fraternities, the Military Order of the Carabao, Association of Military Surgeons and American Medical Association. He is a Fellow of the American College of Surgeons and of the International College of Surgeons, as well as a member of Naval Order of the United States, the Executives' Club, Chicago, and of Shore Acres Country Club.

He is licensed to practice medicine and surgery in California and Illinois.

Dr. James is married to the former Miss Esther E. Crawford of Mendota, Illinois. She was graduated from the Mendota High School and attended Ward-Belmont, Nashville, Tennessee.

Dr. and Mrs. James have two sons, **Lieutenant Commander Robert C. James,** U.S. Navy, and **James D. James,** U.S. Army.

Robert attended the Georgia Institute of Technology, prior to entering the Naval Academy, where he graduated in 1949. Following graduation, he entered Naval Aviation training and had two tours of combat duty as a fighter pilot in Korea. He is presently attached to a jet fighter squadron based aboard the U.S.S. Saratoga, one of the Navy's largest aircraft carriers. He will attend the Naval War College, Newport, Rhode Island, upon leaving the Saratoga in August. Lieutenant Commander and Mrs. James, the former Ann Van Etten of Mendota, Illinois, have four children, Randy, Tia, Brad, and Julie.

James D. James was graduated from the University of Illinois in June 1959 with a B.S. degree and accepted a commission as 2nd Lieutenant in the regular Army. Following completion of the training courses in Ranger and Airborne (paratroop) at Fort Benning, Georgia, he was assigned to the Headquarters Company, Camp Darby, Leghorn, Italy. He is unmarried.

Mrs. James' hobbies are the grandchildren, homemaking, cooking, gardening, music and antiquing.

Readers of the *Bulletin* will remember that in the March 1960 issue, in his President's Message, Dr. Edward L. Compere, president of the United States Section, recounted the experience he had of visiting the U.S. Naval Hospital at Yokosuka and lecturing to the staff. It is this hospital that was Dr. James' first command.

During his stay at Yokosuka, the Naval hospital mushroomed from a dispensary with about one hundred patients to a king-sized hospital treating about four thousand five hundred wounded Korean veterans.

The Yokosuka hospital was the largest in the Navy in numbers of hospitalized patients. Another record was set by the medical command when two thousand twenty-two patients were admitted and processed in less than forty hours.

Capt. James, that being his rank at the time, increased the peacetime staff of one hundred to eight hundred doctors, nurses and corpsmen. Included where ten mobile surgical units which traveled the front lines in Korea treating wounded personnel on the spot.

More than two thousand seven hundred Purple Heart Medals were awarded to patients at the hospital, and while Capt. James was in command more than twenty-five thousand men were admitted and treated.

Dr. Compere commented in his article very favorably on the hospital and was particularly impressed by the interns, all of whom are graduates of Japanese medical schools and very fine and alert young doctors.

If there is an omen in this coincidence and in other contacts between the International College of Surgeons and Dr. James, they are all auspicious and point to a happy and mutually advantageous association.

The International College of Surgeons, its officers and members, welcome Dr. James as executive director and pledge him their sincere cooperation.

Dr. Lyon H. Appleby
F.R.C.S., F.A.C.S., F.I.C.S.
Vancouver, Canada

Dr. Henry W. Meyerding
F.A.C.S., F.I.C.S. (Hon.)
Rochester, Minnesota

Prof. Dr. A. Mario Dogliotti
F.A.C.S. (Hon.), F.I.C.S. (Hon.)
Turin, Italy

Joint Meeting Canadian and United States Sections

INTERNATIONAL COLLEGE OF SURGEONS

Winnipeg, Canada **September 28-29, 1960**

High-ranking international officers of the International College of Surgeons will participate in the Joint Meeting of the Canadian and United States Sections in Winnipeg, Canada, September 28-29, 1960.

They will be led by **Dr. Henry W. Meyerding** of Rochester, Minnesota, president; **Prof. A. Mario Dogliotti** of Turin, Italy, president-designate, and **Dr. Lyon H. Appleby** of Vancouver, Canada, president-elect. Other officers also have indicated their intention to attend.

Among the surgeons outside of Canada and the United States who have accepted invitations to present papers at the Meeting are **Mr. Vivian Bartley Green-Armytage**, F.R.C.S. (Eng.), F.I.C.S. (Hon.), who delivered the Herbert Acuff Memorial Lecture at the Eleventh Biennial International Congress in Los Angeles in 1958; **Prof. José Soler-Roig** of Barcelona, vice-president of the Spanish Section and member of the International Board of Governors of the College, professor of surgery and head surgeon at the historic *Hospital de la Santa Cruz y San Pablo;* **Prof. Bernhard Zondek**, F.I.C.S. (Hon.), of Jerusalem, past-president of the Israel Section and member of the International Board of Governors of the College, professor of gynecology at the Hebrew University Medical School; and **Mr. Patrick Wensley Clarkson**, F.R.C.S. (Eng.), F.I.C.S., distinguished London surgeon.

The Canadian Section will hold its Convocation and induct an impressive number of surgeons into membership.

The luncheon sessions will be particularly interesting. The speakers at the Wednesday luncheon will be **Justice Samuel Freedman,** chancellor of the University of Manitoba, and **Dr. Lennox G. Bell,** dean of its Faculty of Medicine.

On Thursday, the speakers will be **Dr. Hugh H. Saunderson,** president of the University and **Dr. Alan A. Klass,** assistant professor of anatomy and surgery on the Faculty of Medicine.

Justice Samuel Freedman

Born in Russia, Justice Freedman was brought to Canada by his parents in 1911, when he was three years old. He attend the public elementary and high schools of Winnipeg, and studied at the University of Manitoba, earning the degrees of B.A. (Hon.) in 1929 and LL.B. in 1933.

He lectured in the Manitoba Law School, 1941-1959, until he was chosen chancellor of the University.

He was created K.C. (later Q.C.) in 1944, and appointed Judge of the Court of Queen's Bench of Manitoba in 1952. He served as a bencher of the Law Society of Manitoba, 1949-1952, and in 1952 was president of the Manitoba Bar Association.

A consummate speaker and a man of warm personality and wide interests, Justice Freedman gives generously of his time, his effort and his means to numerous and varied causes. It will be a privilege and a very enjoyable experience to hear him speak. He is a member of the Medico-Legal Society of Manitoba and has served as its president, 1954-1955. He also belongs to the Winnipeg branch of the Canadian Institute of International Affairs, having served as its chairman, 1947-1948. Consequently he will be no stranger to the spirit of the Fellows of the International College of Surgeons.

University President
Dr. Hugh H. Saunderson

Dr. Saunderson is a native of Winnipeg, attended its public elementary and high schools, and was graduated from the University of Manitoba in 1924 with a B.A. degree. He then attended the Normal School and taught in the Manitoba schools for some years. Becoming particularly interested in science, especially chemistry, he continued his studies at the University of Manitoba and obtained a B.Sc. degree in 1929 and a M.Sc. in 1930. He earned his doctorate in chemistry at McGill University in 1932, and became a lecturer in chemistry at the University of Manitoba. From 1933 to 1934 he was a research chemist with the Canadian International Paper Company.

He then returned to the University of Manitoba and served successively as assistant, associate, and professor of chemistry. In 1945 he was appointed dean of arts and science.

Two years later he was chosen as director of the division of information service at the National Research Council in Ottawa. In 1951 he was given a leave of absence from the National Research Council to the Department of Defence Production, dealing with the production of chemicals, explosives and ammunition.

In 1954 he returned to Winnipeg as president of the University of Manitoba.

Dr. Saunderson is a man of varied interests, scientific, educational, civic and artistic, and has served ably and devotedly as an officer of numerous organizations dedicated to the furthering of worth-while projects.

In 1959 the University of Alberta bestowed upon him the degree of Doctor of Laws *(honoris causa)*.

Dr. Saunderson is married to the former Miss Patricia Jean Coke. They have a daughter Carol, born in 1937, and a son Hugh, born in 1945.

Joint Meeting
Canadian and United States Sections

INTERNATIONAL COLLEGE OF SURGEONS

Marlborough Hotel, Winnipeg, Manitoba
September 28-29, 1960

In Conjunction with the Manitoba Medical Association Meeting
September 26-27

General Chairman, DR. SAMUEL S. PEIKOFF
F.R.C.S. (Edin), F.R.C.S. (C), F.A.C.S., F.I.C.S., Winnipeg, Manitoba, Canada

Chairman, Scientific Program, DR. A. C. ABBOTT
F.R.C.S. (Edin), F.R.C.S. (C), F.A.C.S., F.I.C.S., Winnipeg, Manitoba, Canada

PRELIMINARY SCHEDULE

Advance Registration—Monday and Tuesday, September 26-27, 8 A.M. to 4 P.M., Marlborough Hotel

United States Executive Council and International Executive Council Meetings—Tuesday, September 27, 1 to 5 P.M., Marlborough Hotel

Registration—Wednesday, 8 A.M. to 4 P.M.

Registration—Thursday, 8 A.M. to 4 P.M.

General Assemblies—Wednesday, 8 A.M. to 4 P.M.
—Thursday, 8 A.M. to 12 Noon

Specialty Section Programs—Thursday, 2 P.M. to 5 P.M.

Scientific Motion Picture Program—
Wednesday and Thursday, 8 A.M. to 9 A.M.

Session for Surgical Nurses—
Wednesday, 9 A.M. to 12 Noon and 2 P.M. to 3 P.M.

Luncheons—Wednesday and Thursday, 12 to 2 P.M.

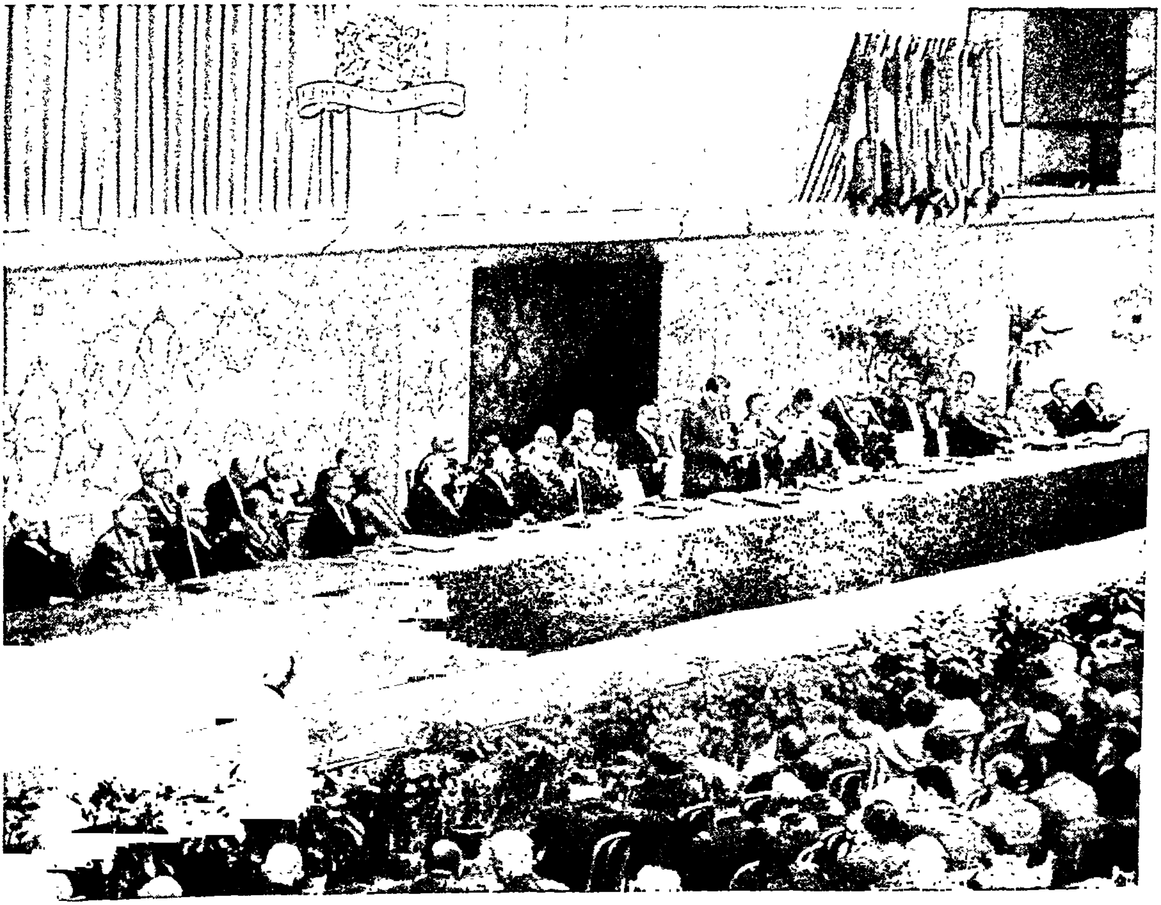
Cocktail Hour—Wednesday, 6 P.M., Royal Alexandra Hotel

Banquet and Convocation—Wednesday, 7 P.M., Royal Alexandra Hotel

Dinner and Dance (Manitoba Medical Association)—
Thursday, 8 P.M., Marlborough Hotel

Women's Auxiliary Program—each day

Prof. Pietro Valdoni, president of the Twelfth Biennial International Congress of the International College of Surgeons, delivering the presidential address at the opening session of the Congress



The speakers' table at the opening session, held on Sunday, May 15, in the Reception Hall of the Palazzo dei Congressi

Prof. A. Mario Dogliotti, president-designate of the International College of Surgeons, presenting the keynote address of the Congress—Fundamentals and Future of Extra-Corporeal Circulation

Twelfth Biennial International Congress

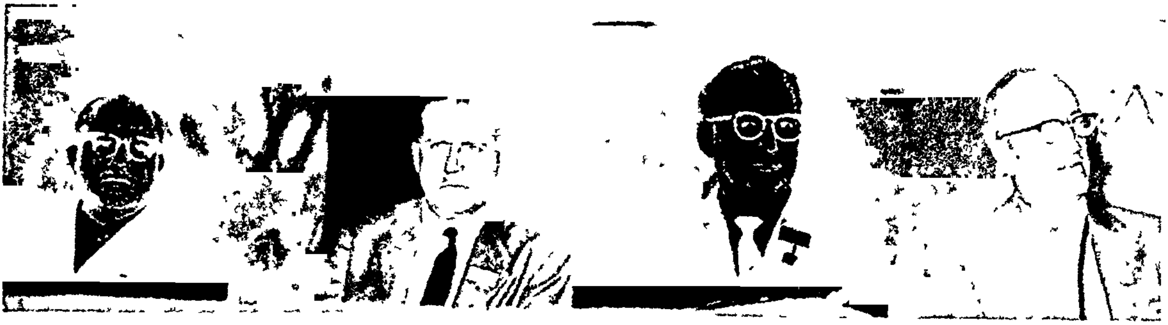
INTERNATIONAL COLLEGE OF SURGEONS

May 15-18, 1960 Rome, Italy

The Twelfth Biennial International Congress of the International College of Surgeons in Rome, Italy, May 15-18, 1960, was held under the sponsorship of The Honorable Giovanni Gronchi, President of the Republic of Italy.

The Honorary Committee included:

Hon. C. Merzagora, President of the Senate
Hon. G. Leone, President of the Legislative Chamber
Hon. F. Tambroni, President of the Council
Hon. C. Giardina, Minister of Health
Hon. G. Medici, Minister of Public Instruction
Prof. M. Agrifoglio, President, Italian Surgical Society
Prof. R. Bastianelli, Honorary President, Italian League Against Cancer
Prof. R. Chiarolanza, President, F.N.O.M.
Hon. U. Cioccetti, Mayor of Rome
Prof. P. Di Mattei, President of the Medical Academy of Rome
Prof. A. M. Dogliotti, President of the Italian Thoracic Surgical Society.
Gen., M.C., G. Ferri, President, Gen. C.R.I.
Prof. C. Frugoni, President, Superior Council of Health
Barrister A. Liuti, Prefect of Rome
Prof. U. Papi, Rector of the University of Rome
Prof. V. Puntoni, Dean of the Faculty of Medicine of the University of Rome
Lt. Gen., M.C., Prof. Gerardo Mennonna, Director General of Health for the Army
Lt. Gen., M.C., Prof. Giovanni Pezzi, Director General of Health for the Navy
Lt. Gen., M.C., Prof. Tomaso Lomonaco, Chief Officer, Aeronautic Health Service
His Excellency, Dalmiro F. Videla Balanguer, Ambassador of the Republic of Argentina
His Excellency, Max Loeventhal, Ambassador of Austria
His Excellency, M. van der Elst, Ambassador of Belgium
His Excellency, Hugo Gouthier de Oliveira Gondim, Ambassador of Brazil



At the speakers' table, Prof. Mario Degni of Brazil, Dr. Jorge A. Taiana of Argentina and Dr. Edward L. Compere of the United States, vice-presidents of the College, and Dr. Arnold S. Jackson of the United States, assistant secretary general

His Excellency, Léon Mayrand, Ambassador of Canada

His Excellency, Holger Bech, Ambassador of Denmark

His Excellency, Asko Ivalo, Ambassador of Finland

His Excellency, G. Palewski, Ambassador of France

His Excellency, Manfred Klaiber, Ambassador of Germany

His Excellency, Cleon Syndra, Ambassador of Greece

His Excellency, Dj. Emami, Ambassador of Iran

His Excellency, Eliahu Sasson, Ambassador of Israel

His Excellency, Tadakatsu Suzuki, Ambassador of Japan

His Excellency, Driss Debbagh, Ambassador of Morocco

His Excellency, W. de Bylandt, Ambassador of the Netherlands

His Excellency, Eduardo Garland, Ambassador of Peru

His Excellency, José M. Doussinague, Ambassador of Spain

His Excellency, Eric von Post, Ambassador of Switzerland

His Excellency, Phairot Jayanama, Ambassador of Thailand

His Excellency, M. G. Acikalin, Ambassador of Turkey

His Excellency, James David Zellerbach, Ambassador of the United States of America

His Excellency, Mihajlo Javorski, Ambassador of Yugoslavia

The president of the Congress was **Prof. Pietro Valdoni**, and **Prof. Giuseppe Bendandi** served as secretary general.

A committee of ladies provided a program of entertainment for the wives and families of the congressists. **Signóra Rita Valdoni** was chairman of the committee, and those who served with her included the **Signóre Maria Bietti, Eva Cattaneo, Maria Ceccarelli, Nellina Dogliotti, Olivia Ferreri, Elena Marino Zuco, Livia Mazzoni, Ginetta Mingazzini, Wanda Oselladore, Zora Pettinari, Enrica Placitelli, Agnese Romualdi** and **Adriana Stefanini.**

All the guests of the Congress were most appreciative of the many courtesies extended to them by the committee and expressed their pleasure at the social events that had been so capably planned for their benefit.

The Congress was dedicated to the memory of three great Italian surgeons: Eduardo Bassini (1846-1924) who was born in Pavia and taught at the Universities of Pavia and Padua and with whose name the classic operation for inguinal hernia is linked; Domenico Biondi (1855-1914) who was born near Naples but taught at Bologna, Cagliary and Siena and did brilliant pioneering work in thoracic surgery, and Alessandro Codivilla (1861-1912) who, born in Bologna, taught both at Bologna and Turin and devised a transskeletal traction technique involving a nail which bears his name.

The Italian Section of the International College of Surgeons was the official host to the Congress, and its officers exerted every effort to the end that it was truly

Center section of the audience at the opening session

Right section of the audience at the opening session

CANDID CAMERA SHOTS

Prof. Giuseppe Bendandi, secretary of the Congress, with a fellow congressist

Paper work engaged

Dr. Alexander B

a major event dedicated to the surgical sciences. The officers of the Section are:

PRESIDENT

Prof. Pietro Valdoni, Director of the Institute of Clinical Surgery at the University of Rome

PRESIDENT-ELECT

Prof. Galeno Ceccarelli, Former Director of the Institute of Clinical Surgery at the University of Padua

VICE-PRESIDENTS

Prof. Guido Oselladore, Director of the Institute of Clinical Surgery at the University of Milan

Dr. Antonio Chiatellino, L.D., Head of the *Ospedale Fatebenefratelli* of Milan

MEMBERS OF THE COUNCIL

Dr. Antonio Cimanata, L.D., Head of the Municipal Hospital of Monza

Prof. Alberto De Blasi, Director of the Institute of Surgical Pathology of the University of Bari

Prof. Gaetano Placitelli, Director of the Institute of Clinical Surgery at the University of Bologna

SECRETARY

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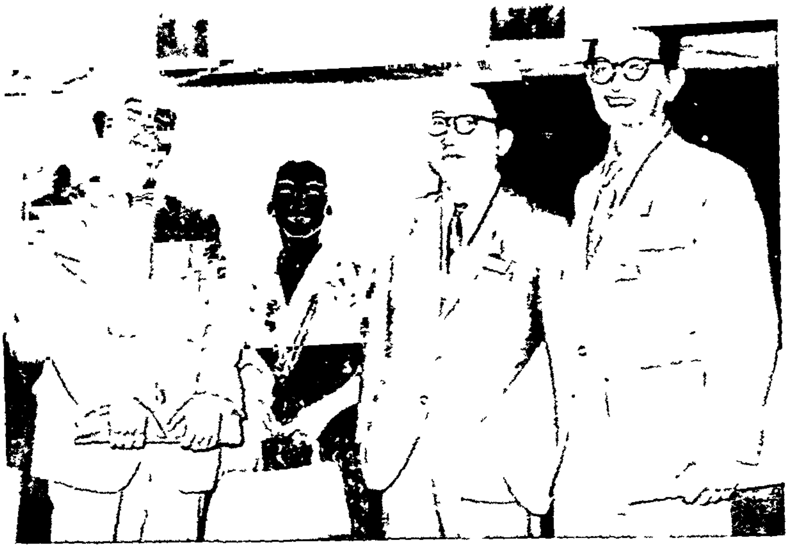


Prof. Komei Nakayama of Japan, at right, with friends

The fourteen sections on surgical specialties included the following:

a) Anesthesiology; *b)* Heart surgery; *c)* Colon and rectal surgery; *d)* Pediatric surgery; *e)* Plastic surgery; *f)* Thoracic surgery; *g)* Neurosurgery; *h)* Ophthalmology; *i)* Orthopedics and Traumatology; *j)* Obstetrics and Gynecology; *k)* Otolaryngology; *l)* Rehabilitation; *m)* Sports injuries; *n)* Urology; *o)* Surgical nurses.

An entire day was devoted to each of these specialties, and time was provided for a symposium and for free communications.

The *Palazzo dei Congressi* also housed a special exhibition of surgical and medical apparatus and equipment sponsored by various firms, and a book show.

A fine program of surgical films was exhibited at the Fifth International Congress of the Medical Film which was held simultaneously with the Congress. The films were shown in Hall F of the *Palazzo dei Congressi.*

The stupendous task of organizing the scientific program of the Congress was handled with conspicuous competence by the following committee:

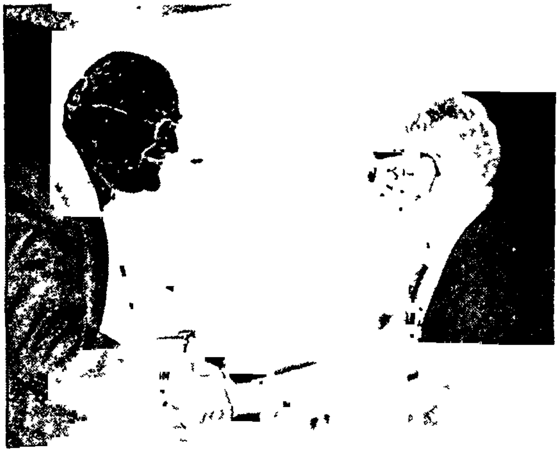
Dr. Horace E. Turner, secretary general, with congressists

Dr. Edward L. Compere of the United States and Prof. José Soler Roig of Spain

CANDID CAMERA SHOTS

Prof. Giuseppe Bendandi, secretary of the Congress, with a fellow congressist

Paper work engaged two surgeons



Dr. Alexander Brunschwig of New York City greets a friend

a major event dedicated to the surgical sciences. The officers of the Section are:

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Prof. Gaetano Placitelli, Director of the Institute of Clinical Surgery at the University of Bologna

SECRETARY

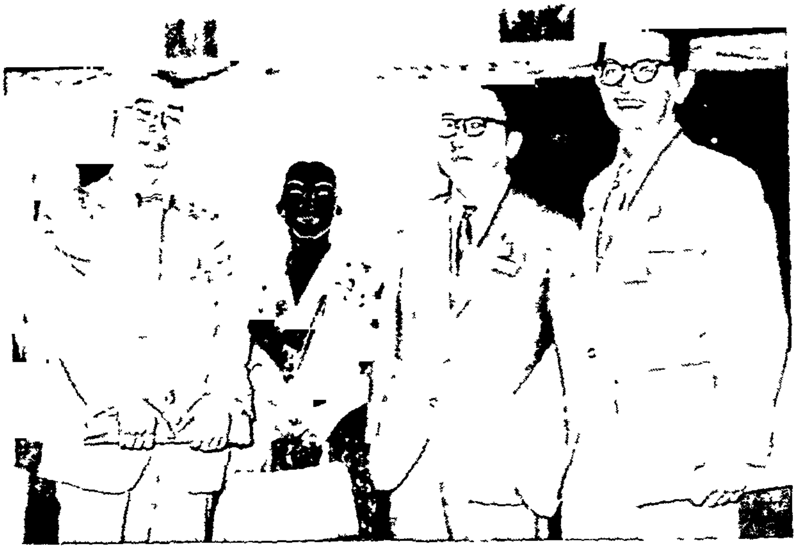
Prof. Giuseppe Bendandi, Director I of the Institute of Surgical Pathology at the University of Ferrara

The *Palazzo dei Congressi,* located at the Universal Exposition Grounds on the Viale Cristoforo Colombo, served admirably as Congress Headquarters. The official languages, for which simultaneous translation service was provided, were French, English, Italian, Spanish and German.

The Congress consisted of a General Assembly and fourteen sections on surgical specialties. A special section was devoted to surgical nurses.

Four symposia were held in the General Assembly. They dealt with:

I —Portal hypertension.
II —Hepatic resection.
III —Biliary and gastro-intestinal anastomosis.
IV —Ulcerous colitis.



Prof. Komei Nakayama of Japan, at right, with friends

The fourteen sections on surgical specialties included the following:

a) Anesthesiology; *b)* Heart surgery; *c)* Colon and rectal surgery; *d)* Pediatric surgery; *e)* Plastic surgery; *f)* Thoracic surgery; *g)* Neurosurgery; *h)* Ophthalmology; *i)* Orthopedics and Traumatology; *j)* Obstetrics and Gynecology; *k)* Otolaryngology; *l)* Rehabilitation; *m)* Sports injuries; *n)* Urology; *o)* Surgical nurses.

An entire day was devoted to each of these specialties, and time was provided for a symposium and for free communications.

The *Palazzo dei Congressi* also housed a special exhibition of surgical and medical apparatus and equipment sponsored by various firms, and a book show.

A fine program of surgical films was exhibited at the Fifth International Congress of the Medical Film which was held simultaneously with the Congress. The films were shown in Hall F of the *Palazzo dei Congressi.*

The stupendous task of organizing the scientific program of the Congress was handled with conspicuous competence by the following committee:

Dr. Horace E. Turner, secretary general, with congressists

Dr. Edward L. Compere of the United States and Prof. José Soler Roig of Spain

Earnest discussion

Sports Injuries

CHAIRMAN

Dr. Edward L. Compere, Professor and Chairman of the Department of Orthopedic Surgery at Northwestern University Medical School in Chicago

SECRETARY

Dr. Marcello Pizzetti

Urology

CHAIRMAN

Prof. Ermanno Mingazzini, Professor Inc., of Urology at the University of Rome

SECRETARY

Dr. Mario Arduini, L.D.

Surgical Nursing

CHAIRMAN

Signóra Marina Carnana, President of the *Consociazione Naz. I.P.* and *A.V.S.*, Naples

SECRETARY

Signóra Anna Maria Platter

The opening session of the Congress was held on May 15 at 9:30 a.m. in the great Reception Hall of
lazzo dei Congressi.

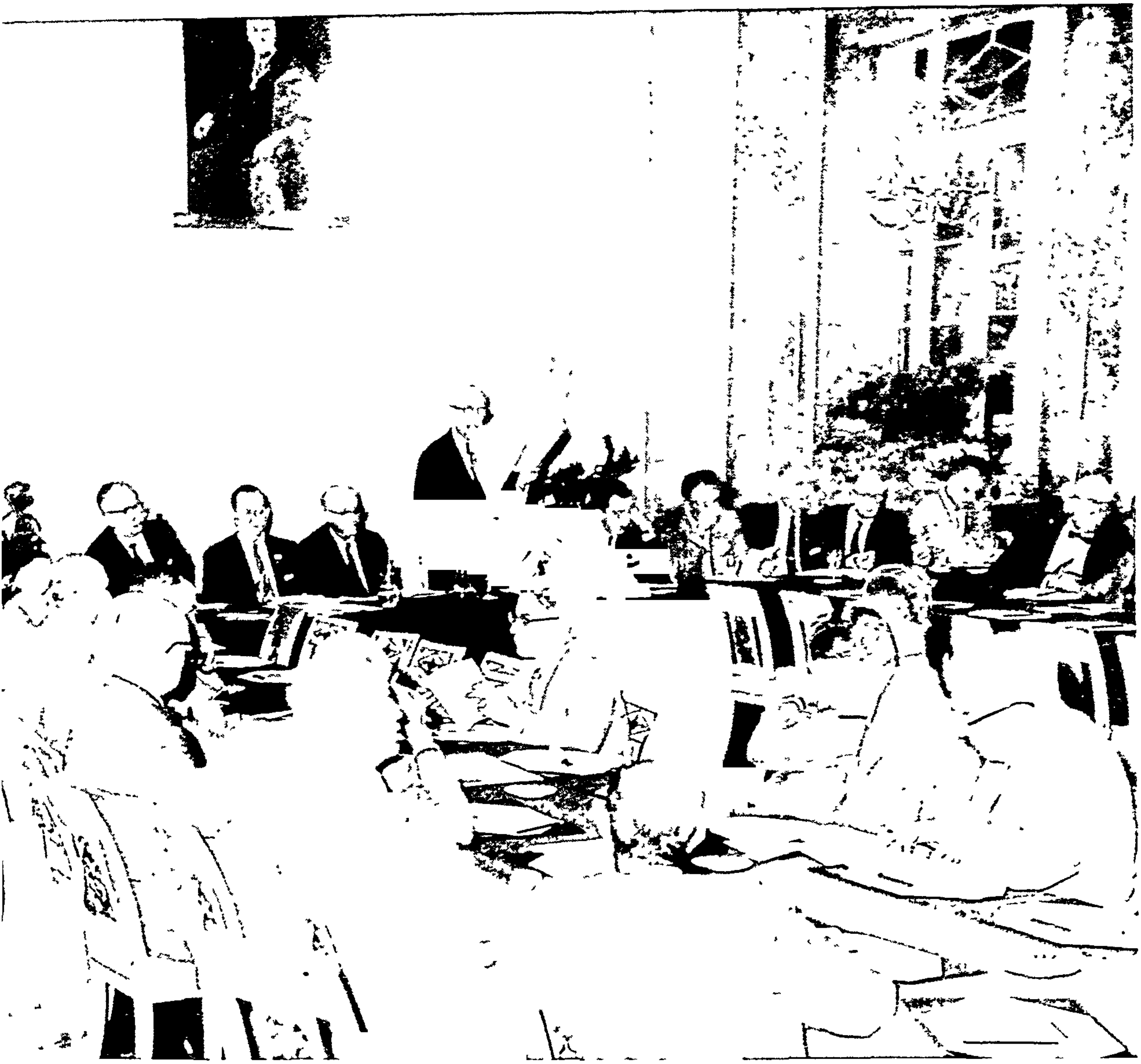
The keynote address
by
Prof. A. M. Dogliotti,
of the International
who spoke on *Funda*
Extra-Corporeal Cir

The General A
to the memory of M
morial read as follows

TO MAX THOREK (1880-1960), M.D., Sc.D., LL.D., F.B.C.S., F.I.C.S., F.P.C.S. (Hon.), F.R.S.M., Founder and Permanent Secretary General of the International College of Surgeons, to which he devoted the best of his mighty energies and his enlightened enthusiasm, the General Assembly is dedicated, in memoriam. An artist, a brilliant writer, a widely experienced surgeon, and a gifted organizer, he achieved his dream in the International College of Surgeons. In it, he built a world-wide association of surgeons, based on the spirit of friendship and understanding, with no limitation of religion, race or color.

Two of the Specialty Sessions also were dedicated to other recently deceased leaders of the International College of Surgeons. The memorials read:

TO RAFFAELE PAOLUCCI DI VALMAGGIORE (1892-1958), F.A.C.S. (Hon.), F.I.C.S. (Hon.), the Section on Thoracic Surgery is dedicated, in memoriam. Director of the Surgical Clinics of the Universities of Parma, Bologna, and Rome, he was a pioneer in pulmonary excision surgery in Italy. An all-around surgeon, he devoted himself with whole-hearted enthusiasm to this new branch of surgery, of which he was the first practitioner in this country.



Dr. Horace E. Turner, secretary general, presenting his report to the House of Delegates

TO ROSS T. McINTIRE (1889-1959), M.D., F.A.C.S. (Hon.), F.I.C.S. (Hon.), Vice Admiral, U.S.N. (Ret.), Executive Director of the International College of Surgeons, the Section on Rehabilitation is dedicated, in memoriam. He was to have presided over that Section, and had already begun to organize it when he died. During the war, he was Surgeon General of the United States Navy, and personal physician to President Roosevelt. He headed the President's Committee for the Rehabilitation of the Physically Handicapped, and devoted himself with singular dedication to this branch of medicine.

On Saturday, May 14, prior to the opening of the Congress, the International House of Delegates convened in the Winter Garden of the Hotel Excelsior.

Earnest discussion

Sports Injuries

CHAIRMAN

Dr. Edward L. Compere, Professor and Chairman of the Department of Orthopedic Surgery at Northwestern University Medical School in Chicago

SECRETARY

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Urology

CHAIRMAN

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Surgical Nursing

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The keynote address was delivered by **Prof. A. M. Dogliotti,** president-designate of the International College of Surgeons, who spoke on *Fundamentals and Future of Extra-Corporeal Circulation.*

The General Assembly was dedicated to the memory of Max Thorek. The memorial read as follows:

> *TO MAX THOREK (1880-1960), M.D., Sc.D., LL.D., F.B.C.S., F.I.C.S., F.P.C.S. (Hon.), F.R.S.M., Founder and Permanent Secretary General of the International College of Surgeons, to which he devoted the best of his mighty energies and his enlightened enthusiasm, the General Assembly is dedicated,* in memoriam. *An artist, a brilliant writer, a widely experienced surgeon, and a gifted organizer, he achieved his dream in the International College of Surgeons. In it, he built a world-wide association of surgeons, based on the spirit of friendship and understanding, with no limitation of religion, race or color.*

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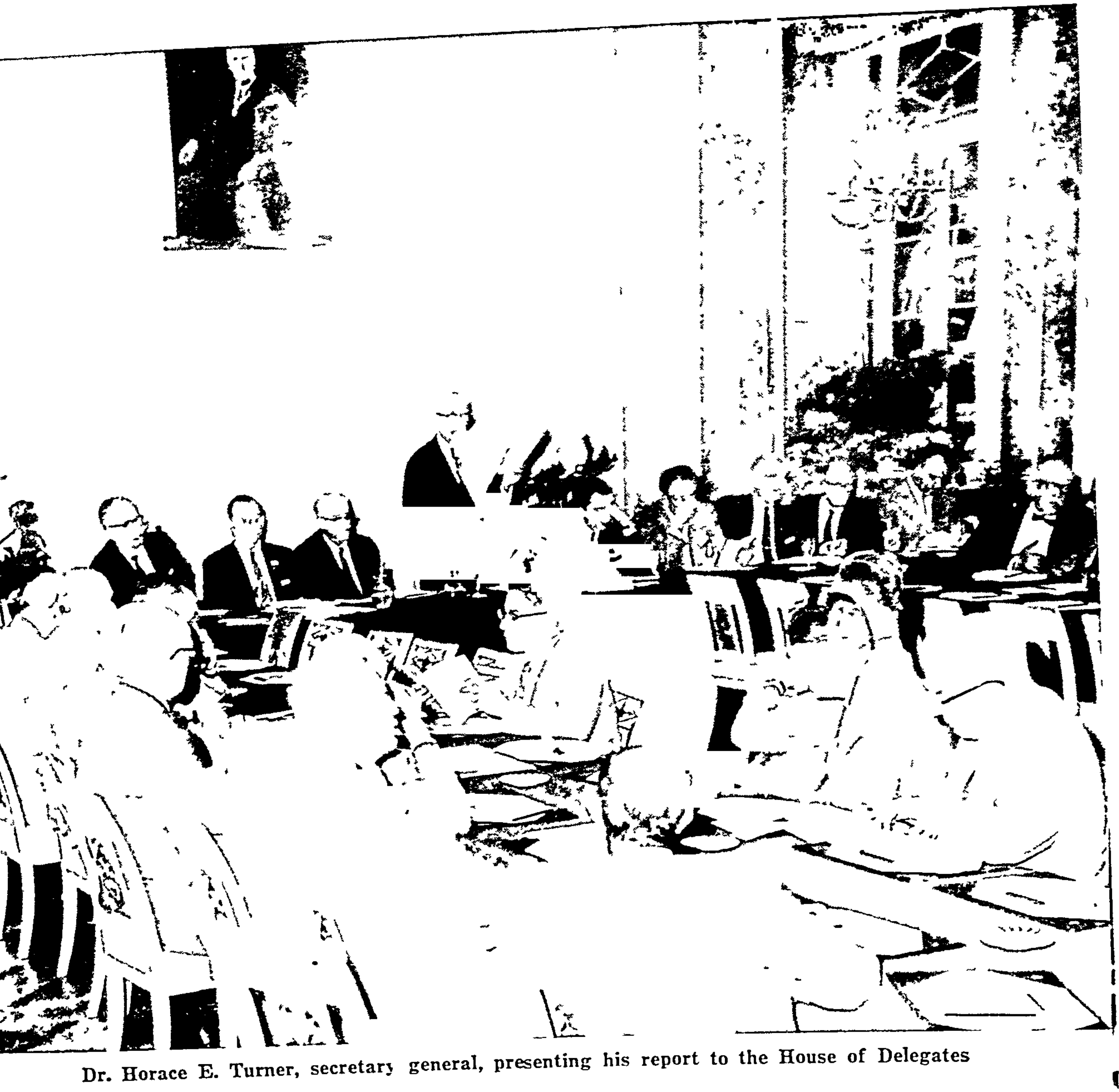
Friendly encounter



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Prof. John H. Oltramare, secretary general of the European Federation of the International College of Surgeons

Various reports were submitted and decisions made. International officers for the biennial term 1960-1962, who will assume their posts in September, were elected. These are:

PRESIDENT

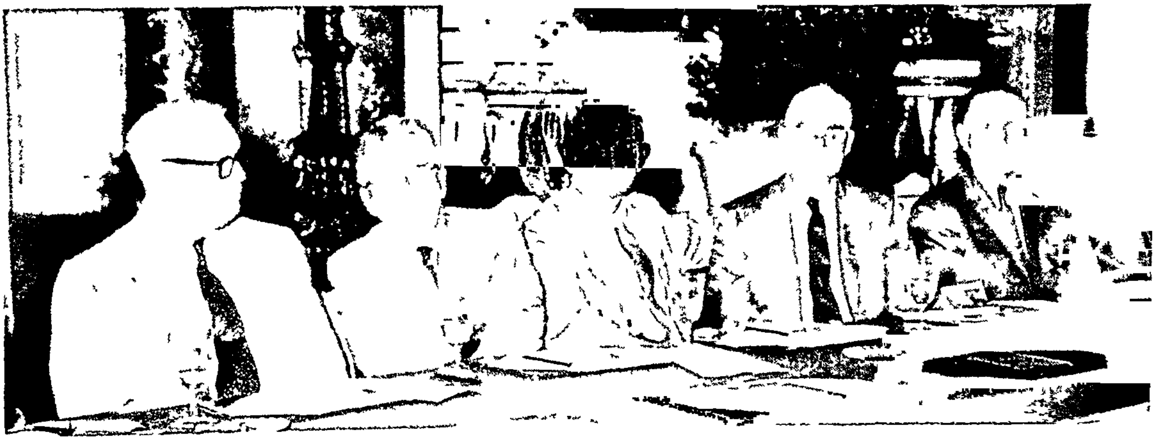
Prof. A. Mario Dogliotti, F.A.C.S., F.I.C.S (Hon.), Turin, Italy

PRESIDENT-ELECT

Dr. Lyon H. Appleby, F.R.C.S. (Eng.), F.R.C.S. (Can.), F.A.C.S., F.I.C.S., Vancouver, Canada

SECRETARY GENERAL

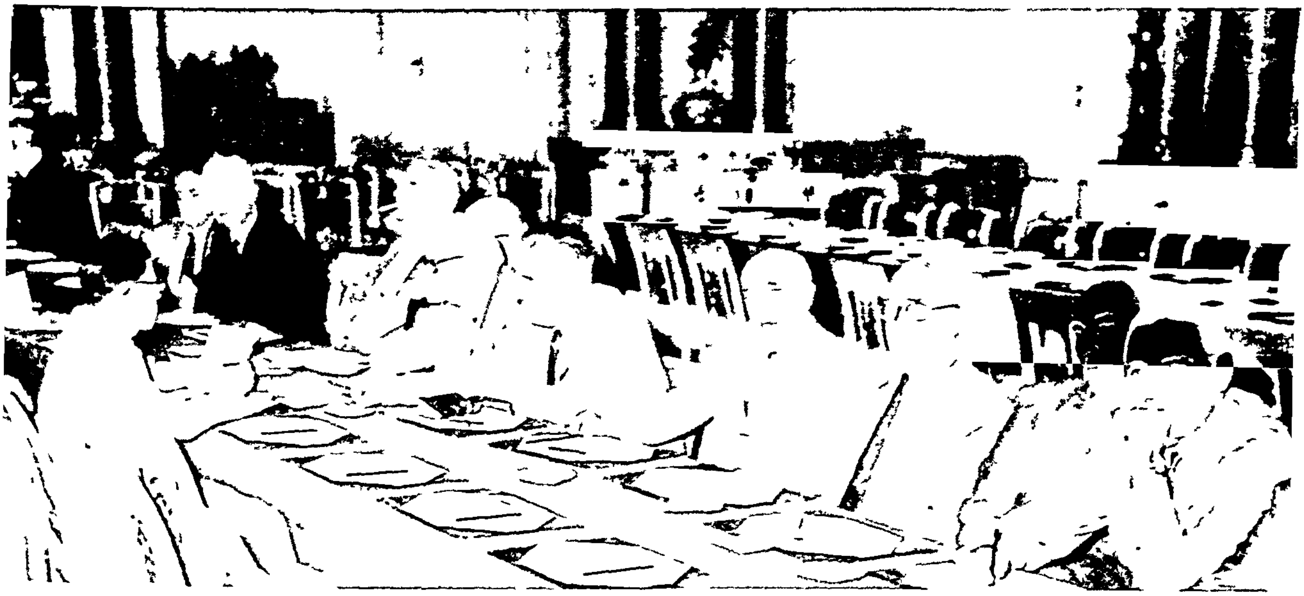
Dr. Horace E. Turner, F.A.C.S., F.I.C.S., Chicago, U.S.A.



Dr. Horace E. Ayers, Dr. James P. Fleming, Dr. Henry M. Scheer, and Dr. Edwin J. Grace and

Dr. Morris Fishbein, Dr. August F. Daro, Dr. Edwin J. Grace, Dr. Gilbert F. Douglas, Dr. Park Niceley, and Dr. Earl Ingram Carr

Dr. Henry W. Meyerding, president of the International College of Surgeons, recognizing Dr. Arnold S. Jackson, who has risen to present a matter for consideration. From left to right: Dr. Meyerding, Prof. Pietro Valdoni, Prof. A. Mario Dogliotti, Dr. Jackson and Prof. Giuseppe Bendandi



Members of the International House of Delegates of the International College of Surgeons representing many National Sections united in purpose to serve the advancement of surgical science and the welfare of mankind

Dr. Henry W. Meyerding addressing meeting of the House of Delegates

Dr. Edward L. Compere speaking to the House *of Delegates*

ASSISTANT SECRETARY GENERAL

Dr. Arnold S. Jackson, F.A.C.S., F.I.C.S., Madison, Wisconsin, U.S.A.

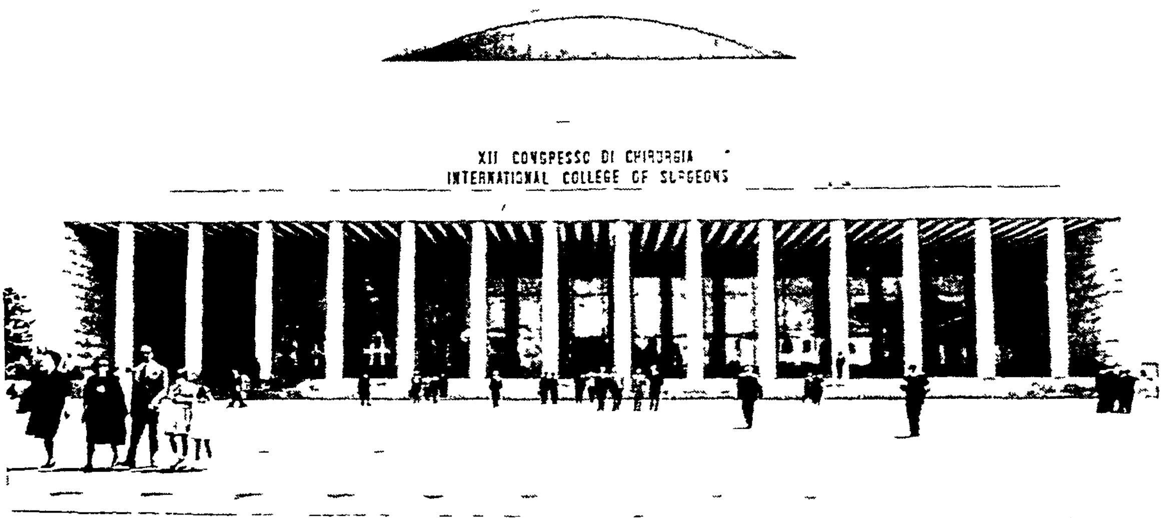
TREASURER

Dr. Francis L. Lederer, F.A.C.S., F.I.C.S. (Hon.), Chicago, U.S.A.

Socially, the week of the Congress was gay. There were numerous parties and receptions. The three social occasions to which all congressists and their families were invited were the cocktail party at the Baths of Diocletian on Sunday evening, the excursion to the *Villa d'Este* at Tivoli on Monday evening and the culminating banquet and ball on the evening of Wednesday, May 18. There was a special program of entertainment for ladies.

The Twelfth Biennial International Congress of the International College of Surgeons, to which we had looked forward with keen anticipation, exceeded every expectation. It was a glorious occasion and an authentic witness to the strength, vitality and constant growth of the College. The stature of the leadership was apparent at every session, where capacity audiences expressed their appreciation of the superbly organized programs. Much was taught by distinguished surgeons and scientists and much was learned by the younger men who came in search of the latest developments in their field. Much was gained, in fact, even by the leading exponents of surgery, through the frank and direct exchange of findings and opinions between surgeons of many lands. All of mankind, really, profited from the advancement of surgery and surgical practice which is bound to ensue from so fruitful an experience for a surgeon as attendance at the Congress—and the attendance was very great indeed. It was truly representative of the far-flung membership of the College.

To the Italian Section of the College and particularly to Prof. Pietro Valdoni and Prof. Giuseppe Bendandi, the able and hard-working guiding geniuses of the occasion, with their corps of chairmen, secretaries and aides, the International College of Surgeons is inestimably grateful. It also is very proud of the loyalty and devotion evidenced by these distinguished surgeons, who, at great personal sacrifice of time and energy, created a great occasion which will be remembered long and well.



The Palazzo dei Congressi, which housed the Congress and was the scene of much activity

His Holiness Pope John XXIII in animated conversation with Fellows of the College

Dr. Henry W. Meyerding addressing meeting of the House of Delegates

Dr. Edward L. Compere speaking to the House of Delegates

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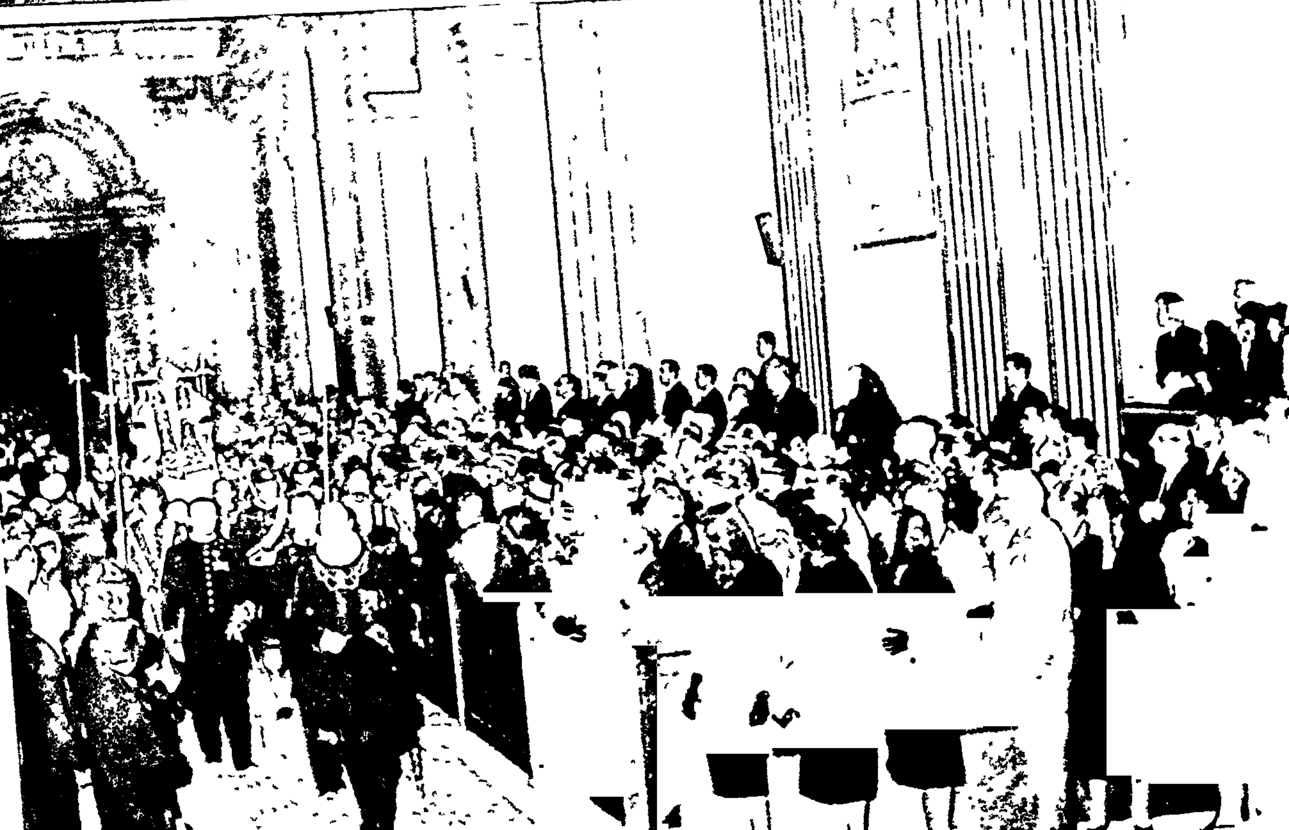
His Holiness Pope John XXIII receiving members of the International College of Surgeons

Pope John XXIII Grants Audience to Congressists

On the morning of Monday, May 16, His Holiness Pope John XXIII granted an audience to members of the Congress in the Apostolic Palace. Prof. Valdoni presented the congressists to His Holiness, who received them most graciously and spoke to them at length. In their devotion to science, he urged them to regard the patient as a whole man composed of a body and a soul intimately linked and interrelated, and urged them to preserve always a truly brotherly attitude toward human suffering.

ON THE NEXT PAGE
Above, Prof. Pietro Valdoni addressing His Holiness Pope John XXIII
Below, the Pope being borne into the audience chamber



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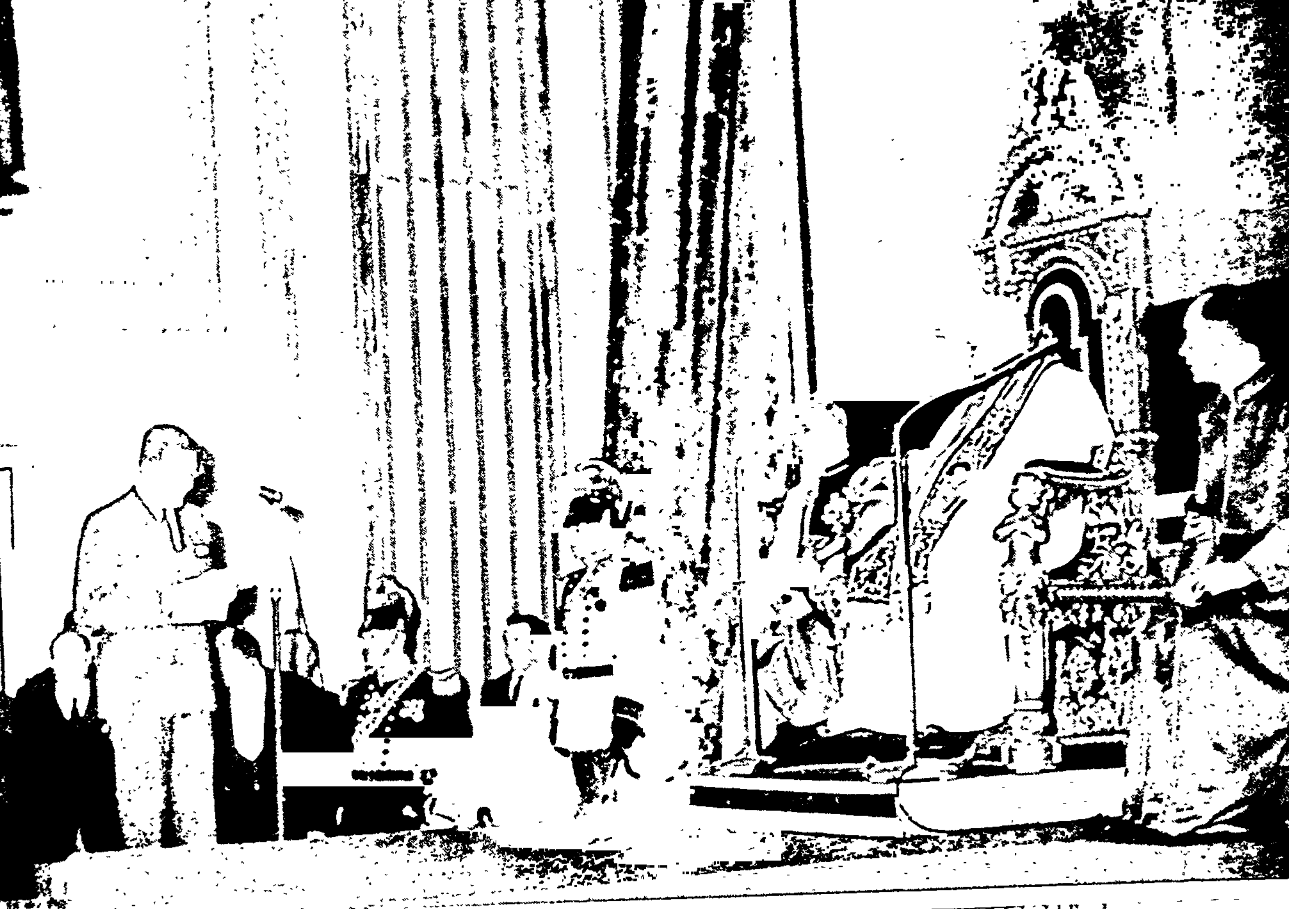
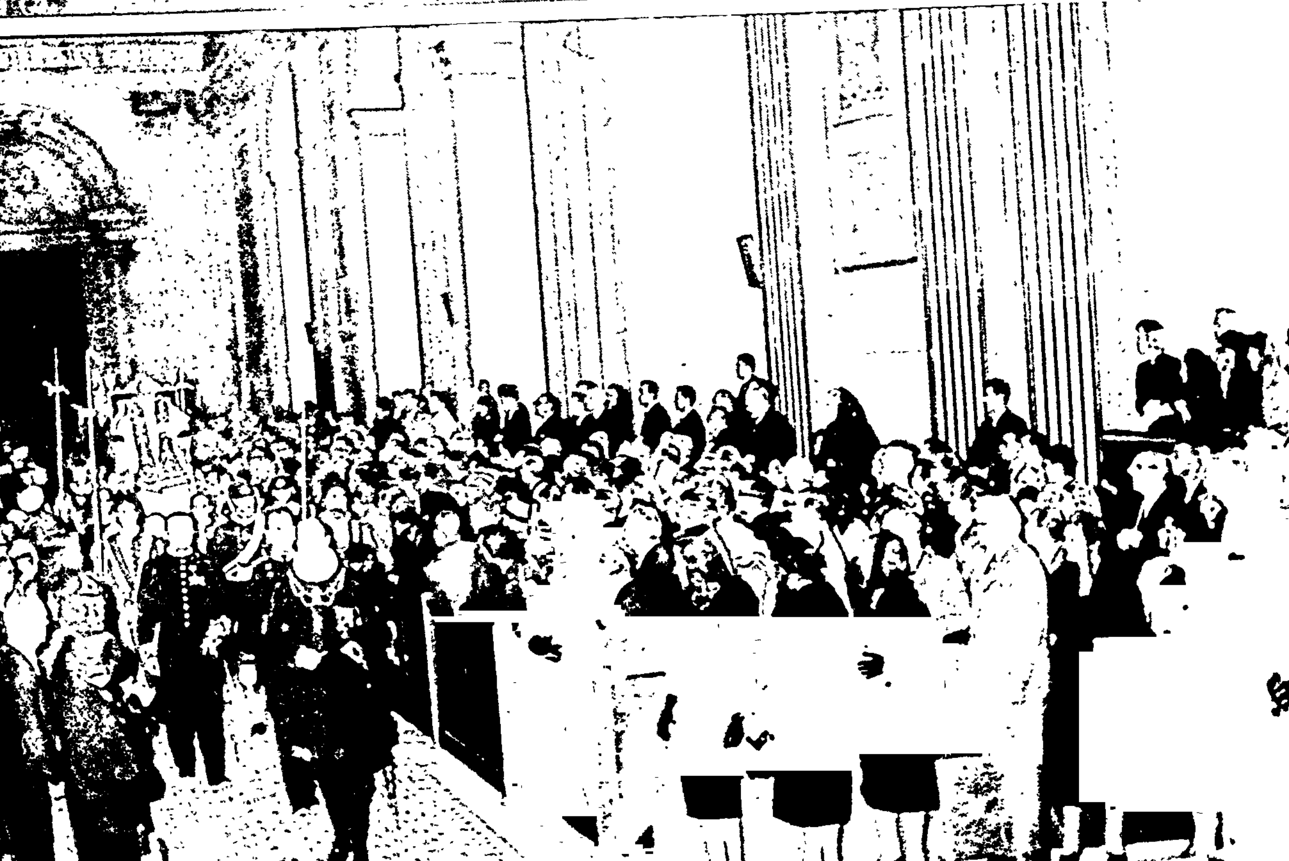




Prof. G. Gherardo Forni, rector, professor emeritus of surgery and former dean of the Medical School of the University of Bologna, accepting insignia of Honorary Fellowship in the International College of Surgeons from Dr. James P. Fleming of Rochester, New York, and Dr. Harry E. Bacon of Philadelphia

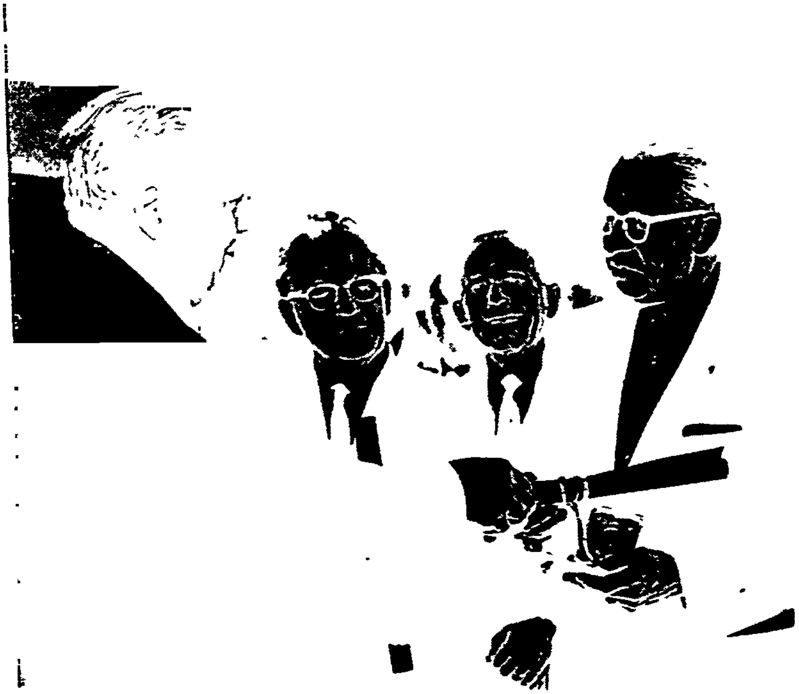
Meeting in Bologna

SECTION OF COLON AND RECTAL SURGERY

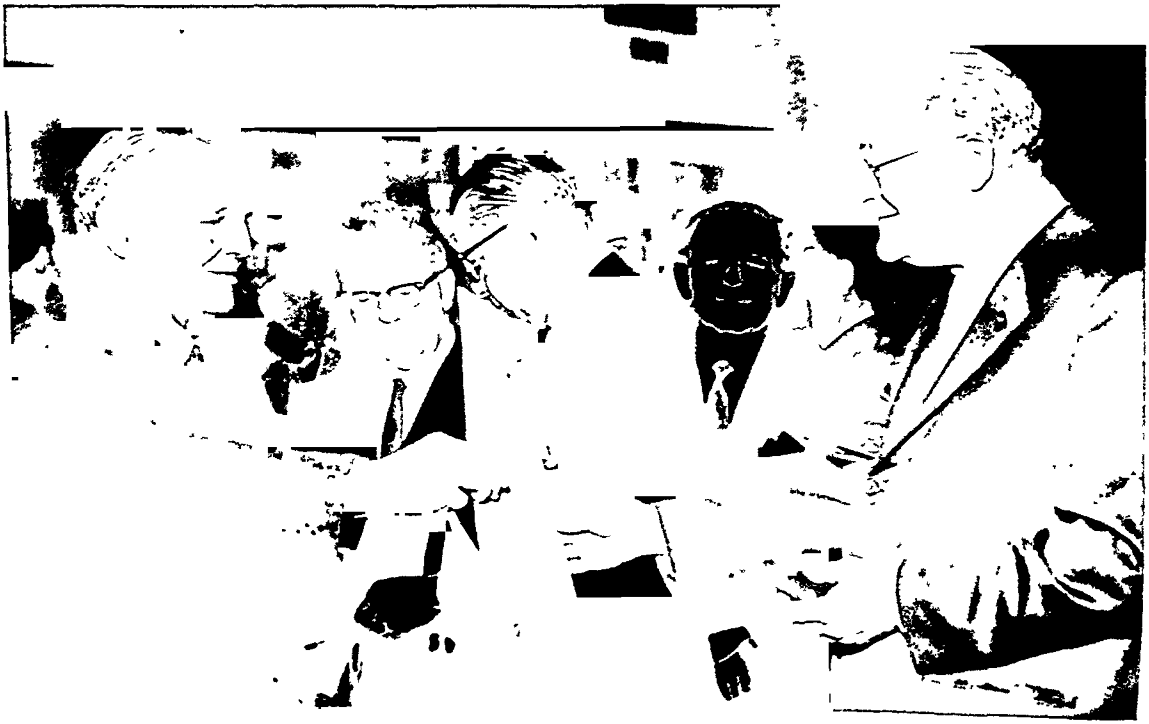
The Meeting of the International Section of Colon and Rectal Surgery held at Bologna, May 20-21, 1960, was a rare occasion in the annals of surgery.

Within the historic halls of the University, famous for its many-centuried tradition of learning, surgeons from diverse lands met, even as they used to meet long ago, to discuss the advancement of their science. The setting in which the meeting was held was unforgettable, and all who were present were deeply and profoundly impressed.

The visitors are very grateful for the extreme courtesy of their hosts, the officers and members of the faculty of the University of Bologna, and for the many kindnesses shown them.



Prof. Forni presenting honorary degree to Dr. Bacon



Dr. Alexander Brunschwig of New York City receiving honorary diploma from Prof. Forni

Postgraduate Courses and Conferences

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Prof. Alfonso de la Peña
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Recent Innovations in Urology

From the Secretary General's Notebook

No mere report, particularly a brief one, of the Rome Congress can do full justice to it. It was a stupendous meeting, with approximately twenty-two thousand surgeons registered from all over the world, most of them accompanied by members of their families. Hotel rooms were at a premium and the general assemblies of the Congress were jammed.

Attendance at all the scientific sessions was very good and the feeling was general that the program was well organized and of a high degree of excellence.

The General Assembly Room of the *Palazzo dei Congressi* and its smaller meeting rooms proved to be admirably designed for our purposes.

On the social side, the Congress was outstanding. The cocktail parties at the Baths of Diocletian and at the *Villa d' Este* at Tivoli were magnificent.

On Wednesday, there was the banquet, with approximately seventeen hundred guests. The banquet hall was gorgeously decorated with bouquets of yellow roses, and the entire occasion was most festive and one never to be forgotten.

Dr. Horace E. Turner

Prior to the Congress in Rome there were meetings of the International Section of Orthopedic Surgery in Paris and in Munich. After the Congress the Section of Colon and Rectal Surgery met at Bologna. A great many congressists flew to Israel for a Post-Congress International Surgical Conference that met both in Tel Aviv and in Jerusalem.

The Rome Congress, it must be acknowledged, achieved a new high in the history of International Surgical Congresses.

The entire College is deeply indebted to Prof. Pietro Valdoni and Prof. Giuseppe Bendandi and their co-workers who achieved so much and made the stay in Rome both profitable and congenial to all.

Horace E. Turner

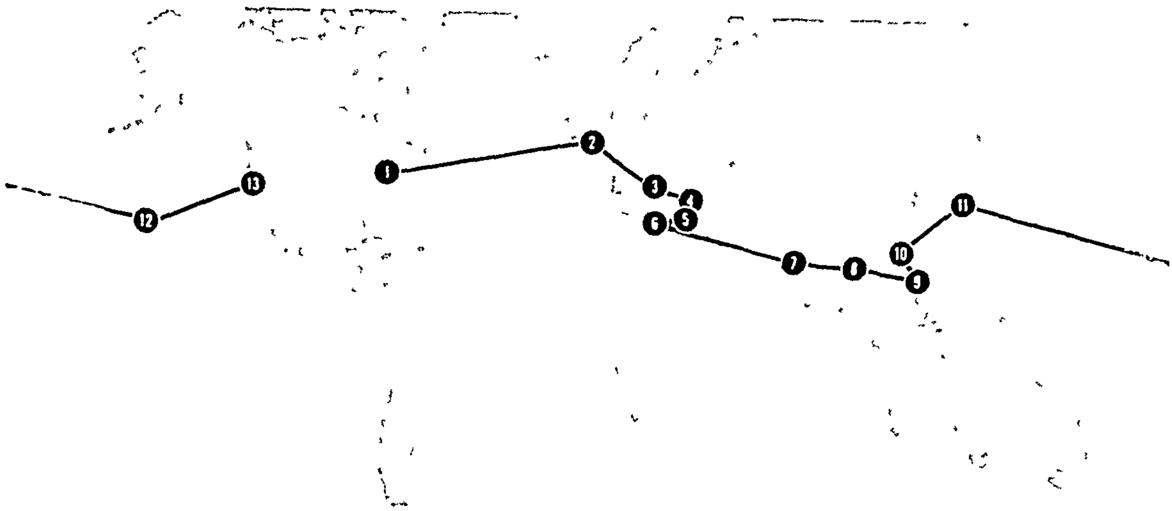
DOMESTIC MALPRACTICE INSURANCE COVERAGE

We are pleased to state that negotiations have been completed with The Midland National Insurance Company, Chicago, Illinois, to effect Malpractice Insurance Coverage for members of the International College of Surgeons. All existing policies will be renewed through The Midland National Insurance Company upon expiration of the present Lloyd's coverage.

With this type of Domestic Coverage, servicing of applicants and claims will be greatly facilitated. The same nation-wide legal and adjustment services will be used. In most instances, the savings to the members under the ICS Plan should still be quite considerable.

Limits of Liability up to $200/600,000 are available for individual members and for partnerships. Coverage is written in all states.

Complete information and rates may be received by writing to the Administrator, John L. Krause, 1576 Sherman Avenue, Evanston, Illinois.



1960

Around-the-World Postgraduate Clinics Tour

INTERNATIONAL COLLEGE OF SURGEONS

Rear Admiral Walter F. James—Scientific Co-ordinator

55 DAYS

September 18-November 11

The participants in the Twelfth Biennial International Congress of the International College of Surgeons who combined their visit to Rome with one of the several clinical tours offered by the College have returned with glowing accounts of their experiences. They explored the beauties of Italy and went on to visit various countries of their choice, for the tours were so arranged as to permit the maximum of flexibility. Some went to Israel for varying lengths of time. Others traveled through Europe. Some traveled entirely by air. Some included leisurely and luxurious shipboard journeys across the ocean. At the conclusion of the Congress, it seemed as if our intrepid voyagers took off simultaneously in all directions. North, South, East and West, the huge planes flew, carrying our friends to places near and far.

Officially, the tours are ended, and all our travelers have returned safe and well and very happy.

Some of our friends are even now readying themselves for the next tour.

That is the fascinating fifty-five-day 1960 Around-the-World Postgraduate Clinics Tour which begins on September 18 and concludes on November 11.

The tour is being planned with particular consideration for seasonal and climatic conditions. It proceeds in a general easterly direction and permits the enjoyment of Europe during the beautiful month of September, and, as the season advances and grows colder, the tour moves on to warmer lands.

No matter how delightful travel is, most of us wish to be home and with our families and friends when the holidays arrive. For this the Tour provides generously. There will be plenty of time after the Tour's end for settling down and preparing for the proper enjoyment of the festive season. No rush will be necessary not only to greet Christmas and the New Year, but even Thanksgiving can be leisurely awaited.

The holiday parties and family gatherings will be enlivened by descriptions of far-away places that are both exotic and friendly, exotic because the Tour this year includes many uncommon stop-overs, and friendly because every minute the travelers will be among friends and everywhere they go Fellows of the International College of Surgeons will be on hand with cordial greetings, eager to exchange scientific ideas, to compare surgical experiences, and offer courtesies and entertainment.

The pace of the Tour is comparatively leisurely and travel is interspersed with periods of delightful and leisurely sojourns in some of the world's most picturesque and piquant resorts, where the natural grandeur is unsurpassed and the comforts and conveniences of civilization abundant.

The Tour leaves early—September 18—and time for making final reservations is at hand. Delay no longer.

THERE IS STILL TIME TO JOIN
THE
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AROUND-THE-WORLD

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55 DAYS • SEPTEMBER 18 - NOVEMBER 11, 1960

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Official Tour Representative for the International College of Surgeons

United States Section

THE PRESIDENT'S MESSAGE

Orthopedic Meetings in Paris and Munich

Dr. Edward L. Compere

Of all of the many forms of communication between individuals or large groups of people there is none which is nearly so effective as a personal visit. The clinical tours around the world which have been sponsored by the United States Section of the International College of Surgeons have made it possible for different groups of surgeons from the United States to meet many of the professors of surgery in almost every country in the world. Having met, friendships have either begun or have been more strongly cemented as a result of these visits. There is nothing which I have enjoyed more during the past few years than the trips which I have taken for the International College of Surgeons and the opportunities which these trips have afforded me of revisiting old friends and of making new friends, both for myself personally and for the International College of Surgeons.

May 4, 1960, Mrs. Compere and I departed from Chicago's Midway Airport by Northwest Airlines Flight number 74 at eight o'clock in the morning and arrived at New York Idlewild International Airport at approximately noon. At the New York Airport we found some of our friends, including **Dr. John B. O'Donoghue**, the hard-working Secretary of the College, and **Mrs. O'Donoghue, Dr. Joseph A. Smaha** of Los Angeles, California, **Dr. and Mrs. William G. Thuss** of Birmingham, Alabama, and **Dr. and Mrs. Vernon Hittner** of Seymour, Wisconsin. Dr. and Mrs. Hittner had been in the group which traveled around the world with us in the fall of 1959. We enjoyed a visit with these friends and subsequently met many others who were in the tour party of thirty-two who would be on the same plane with us in our flight from Idlewild to Lisbon, Portugal. We left Idlewild in a DC-7 plane at about two-thirty in the afternoon and, because we were flying toward the rising sun, when we arrived in Lisbon about ten hours later it was approximately six-thirty in the morning. We were met at the Lisbon airport by **Mr. Tom Zullig**, director for this tour group. Mrs. Compere and I were pleased to find that **Dr. Arménio de Carvalho** was also at the airport to meet and greet us. Dr. Carvalho had spent one year in Chicago as a voluntary fellow in orthopedic surgery at Northwestern University and had worked at Passavant and Chicago Wesley Memorial Hospitals. When he learned that we were to visit Lisbon, he had driven from his home in Porto, Portugal, which is approximately two hundred miles north of Lisbon, to see us.

Because Mrs. Compere and I had visited Lisbon on two previous occasions, we elected not to take the sightseeing tours which had been arranged for the rest of the party. Instead, we accompanied Dr. Carvalho, who served as our guide, on a tour of some of the areas of the city which we had not visited before. After the city tour we drove out to Estoril, which is for Portugal what the Riviera is for France, although much less extensive. We continued along the beautiful coastline of Portugal through several fishing villages and stopped for lunch at a small seashore restaurant, where the fish which we were served had been caught the night before by the proprietor of the restaurant and his assistants. In the evening of this first day in Lisbon we were taken by Dr. Carvalho to a restaurant known principally to those who live in this lovely city. Here again the specialties of the restaurant were found to be delicious and the music with which we were entertained was greatly enjoyed.

May 6, 1960, the second day of our stay in Portugal, we were escorted by Dr. Carvalho to the Tagus river, which at this point is quite wide and serves as the entrance to the city for ships from around the world. We embarked, with the car, on a ferry and were transported to the opposite shore. We drove inland for a distance of forty-five kilometers and then came again to the seashore. We stopped for refreshments in a small village where the houses are mostly owned by citizens of Lisbon who go there for their vacations. In the evening we were back at the hotel just in time to greet our guests. Mrs. Compere and I had invited to a get-acquainted party the thirty-two members of the tour conducted by Mr. Tom Zullig. This tour group was scheduled to go from Portugal to Spain on May 8, to the French Riviera May 12, and on Saturday, May 14, to Rome, where the surgeons would attend the Twelfth Biennial Congress of the International College of Surgeons. In order that this group might become better acquainted, Mrs. Compere and I had arranged a social evening, including a cocktail party, on the lovely roof garden of the Hotel Tivoli. All of the thirty-two members of the tour attended, and during the course of the evening I think that each one met everyone else who was there.

We were scheduled to leave very early the following morning for Barcelona and from Barcelona to fly by Air France to Paris. We told the members of the group goodbye and set our alarm clock for the hour of five. Shortly after the alarm sounded, we received a telephone call, informing us that the Pan American Plane which we had hoped to take to Barcelona had been delayed indefinitely in New York. We were fortunate to obtain space on a Belgian plane which took us to Brussels, and there we had a five-hour layover at the airport before enplaning for Paris. We arrived at the Hotel Ambassador in Paris late in the evening instead of early in the afternoon as had been scheduled originally.

Sunday morning, May 8, we were most happy to find in our hotel **Dr. and Mrs. Donald Durman** of Saginaw, Michigan, friends of many years' standing, who had arrived the previous day. The four of us went together to the American Church in Paris. This is a beautiful church building located on the left bank of the Seine River, and we greatly enjoyed the services there. After church we walked along the banks of the Seine for about a mile and then took a taxicab to Montmartre and the Church of the Sacred Heart. While standing in front of the Church, we were pleasantly surprised to be greeted by an orthopedic surgeon who had received part of his training at Northwestern University Medical School under my supervision. This was **Dr. Robert Van Riet**, formerly of Middelkerke, Belgium, but now practicing orthopedic surgery in Ostende. His wife and his wife's mother were with him. We enjoyed a brief visit with these friends, and then had a delicious lunch in one of the open air restaurants on Montmartre.

When we arrived back at the Hotel Ambassador that afternoon, we found that the orthopedic tour group had arrived. Through the courtesy of the tour director, **Mr. John F. Muller**, a get-together and get-acquainted cocktail party was arranged in the hotel for all of the group. The initial orthopedic tour group included, besides Mrs. Compere and me, the following members:

- Dr. **Anthony De Palma**, of Philadelphia
- Dr. and Mrs. **Donald C. Durman**, Saginaw, Michigan
- Dr. and Mrs. **Herman Epstein**, Beverly Hills, California
- Dr. and Mrs. **Edwin W. Hakala**, Richmond, Virginia
- Dr. and Mrs. **Lawrence R. Leidig**, Santa Monica, California
- Dr. and Mrs. **Athey R. Lutz**, Parkersburg, West Virginia
- Dr. **William L. Minear**, Albuquerque, New Mexico
- Dr. and Mrs. **William Norton**, Wausau, Wisconsin
- Dr. and Mrs. **H. N. Picard**, Alpha, Illinois
- Dr. and Mrs. **Paul B. Steele**, Pittsburgh, Pennsylvania
- Dr. and Mrs. **James T. Tucker**, Richmond, Virginia
- Dr. and Mrs. **Horace E. Turner**, Chicago, Illinois
- Miss **Elise S. Turner**, Chicago, Illinois
- Dr. and Mrs. **Harry Winkler**, Charlotte, North Carolina.

Departure from Munich: Mrs. Edward L. Compere, Dr. *Anthony de Palma, Dr. Compere and* Mrs. Harry Winkler

Several other orthopedic surgeons joined the group at different points of the tour. These included the following:

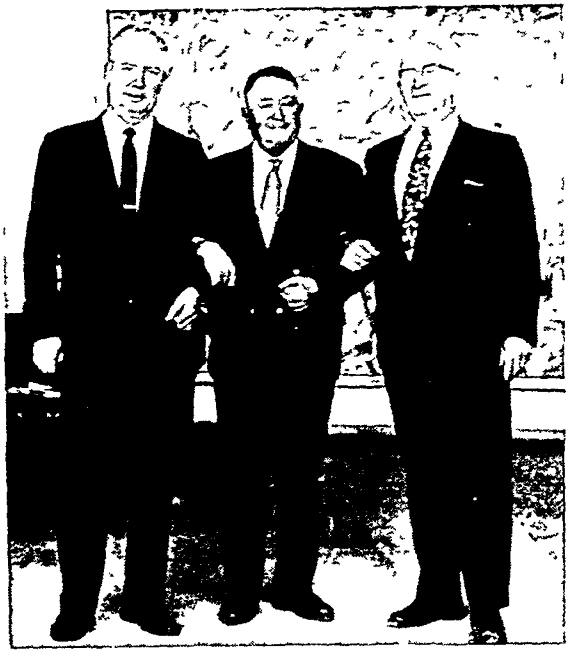
- Dr. **Jack Sugar**, Hyattsville, Maryland
- Dr. **Albert L. Freedman**, Green Bay, Wisconsin
- Dr. and Mrs. **Ellis D. Rand**, Huntington, New York
- Dr. **Albert S. Schwartz**, Perth Amboy, New Jersey
- Dr. **Roger R. Reed**, Anderson, Indiana
- Dr. **Aldo J. Leani**, Springfield, Massachusetts

Dr. **Ammon Fried**, who is practicing orthopedic surgery in Tel Aviv, and was one of our hosts when the Around-the-World Clinical Tour visited Israel last fall, also joined the party briefly.

Monday, May 9, the orthopedic surgeons went by taxi to the private hospital of Drs. **Jean** and **Robert Judet** at 6 Square Jouvenet, Paris XVI, France. This is a beautiful modern hospital of approximately eighty beds, which was completed about three years ago. At the hospital we were greeted most cordially by both Dr. Jean and Dr. Robert Judet. We had the pleasure of watching surgical operations during the morning and after a tour of the hospital we had lunch as guests of the Drs. Judet. In the afternoon we were privileged to see many patients who had been treated by various types of arthroplasties of the hip and operations for fibrous ankylosis of the knee. We were told that the stiff knees were common in France. Surgery had been performed by men who had not had adequate training in surgery. These surgeons had approached the lower end of the femur by an anterior incision which extended through the quadriceps pouch, and marked fibrous ankylosis frequently resulted. An extensive dissection of the thigh, with almost complete stripping of the vasti muscles, as performed by the Judet brothers, restored a good range of motion with good strength and excellent function.

At noon on this same day, Mrs. Jean Judet entertained the wives and daughters of the surgeons at a luncheon in her lovely apartment. After lunch the wives were escorted to the establishment of one of the famous dress designers for a fashion show. In the evening all of our group again enjoyed the hospitality of Dr. and Mrs. Jean Judet. Assisted by Dr. and Mrs. Robert Judet and some of the Judet children, we were served delicious hors d' oeuvres and cocktails. Later in the evening, Dr. and Mrs. Edwin Hakala of Richmond, Virginia, accompanied us to the Casino de Paris, which is very much like Folies Bergères although perhaps not on quite so grandiose a scale.

May 10, 1960, all the orthopedic surgeons were guests of **Prof. Merle D'Aubigne** at his beautiful new hospital, which is known as the Hospital for Orthopedic Surgery and Traumatology and is one of the principal teaching units of the University of Paris Medical School. The operating rooms are arranged as a group of four, with observation galleries on the floor above. It was possible to walk from one operating room observation area to another and thus see almost simultaneously what was going on in all four rooms. The surgery performed by Prof. D'Aubigne and his group of very able younger associates was excellent and most impressive to our entire group. After a good luncheon on the roof terrace of the hospital, we made brief hospital rounds and then enjoyed seeing a large number of interesting cases presented by Prof. D'Aubigne and other members of his staff. Those who were in our group were most appreciative of the courtesies shown to them and the opportunities of observing such excellent orthopedic surgery and seeing many end results of operative treatment in two of the best known orthopedic centers in the world today.



Dr. Max Lange in the center with two of his guests, Dr. Edward L. Compere of Chicago and Dr. Paul B. Steele of Pittsburgh, in the entrance hall of Prof. Lange's new orthopedic clinic

In the evening, Virginia and I were privileged to be the guests of Dr. and Mrs. **René Charry**. Dr. Charry is an orthopedic surgeon who formerly practiced in Toulouse and who has been in Paris only about five years. He showed me x-rays and photographs of some of his patients and discussed his theories with regard to various operations. Dinner and a cabaret with a very entertaining show, as guests of Dr. and Mrs. Charry, were also greatly enjoyed. In addition to Dr. and Mrs. Charry, we had as our dinner companions **Genevieve de Vilmorin**, a famous author the hotel for all of the group. The initial orthopedic tour group included, besides Mrs. Compere and me, the following members:

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This is a most imposing structure and is filled with beautiful paintings by the world's great artists.

That evening we were entertained at a cocktail party, with a great many delicious hors d'oeuvres, at the beautiful home of Dr. and Mrs. Lange, located in a suburb of Munich and surrounded by spacious grounds and gardens.

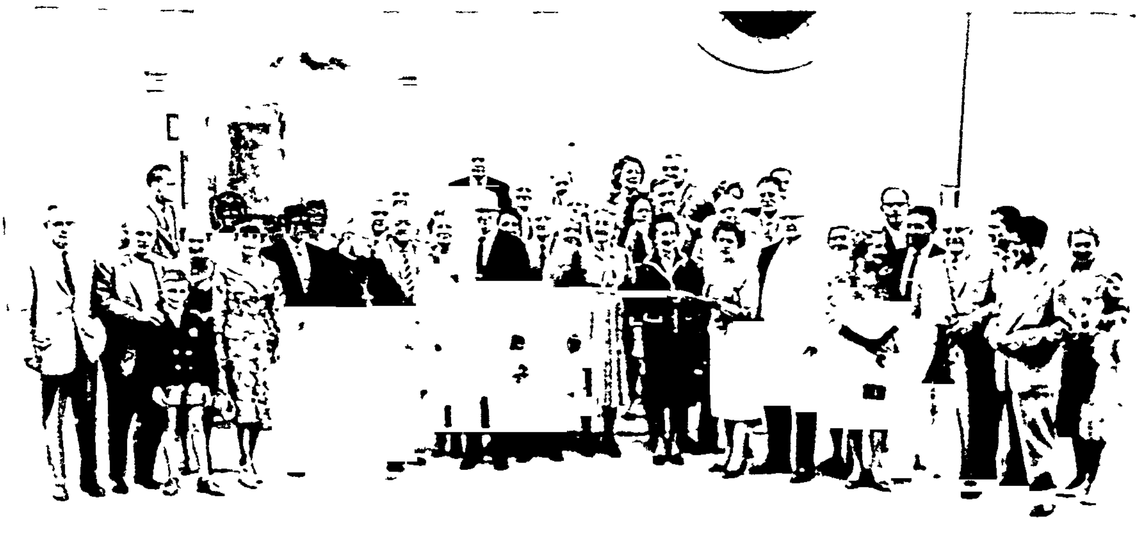
The next day we again were guests of Drs. Max and Margret Lange and again were permitted to observe skillful surgery as performed by Prof. Lange and other members of his staff. We left by buses, which had been arranged for by the Langes, together with six of the younger doctors who are associated with them, namely **Dr. H. Huber, Dr. E. Hipp, Dr. H. Galli, Dr. H. Bette, Dr. A. Goeb,** and **Dr. U. Schuster,** and traveled through beautiful countryside to the lovely Lake Starnberg, where we had a delicious luncheon. After lunch we continued on in the comfortable bus to Andechs, where we visited the famous old church and met Prof. Lang, a Catholic priest of great learning and abbot of the monastery. He gave us a splendid lecture in English about the long history of the Counts of Andechs who had governed this area for centuries and at one time were rulers of a great deal of Europe. This noble family and the people of the village had provided the money and the labor to build the church. The lay brothers of the Order which serves this church operate a brewery and make excellent beer. We were privileged to sample the product and found it to be very good indeed.

In the evening after this tour through the countryside, we were taken to the *Hofbräuhaus,* which is the center of social life for the working people of the city of Munich. Students, clerks, and workers of all kind bring their wives or their sweethearts to eat food, which is very good but not expensive, and to dance to the music of excellent orchestras.

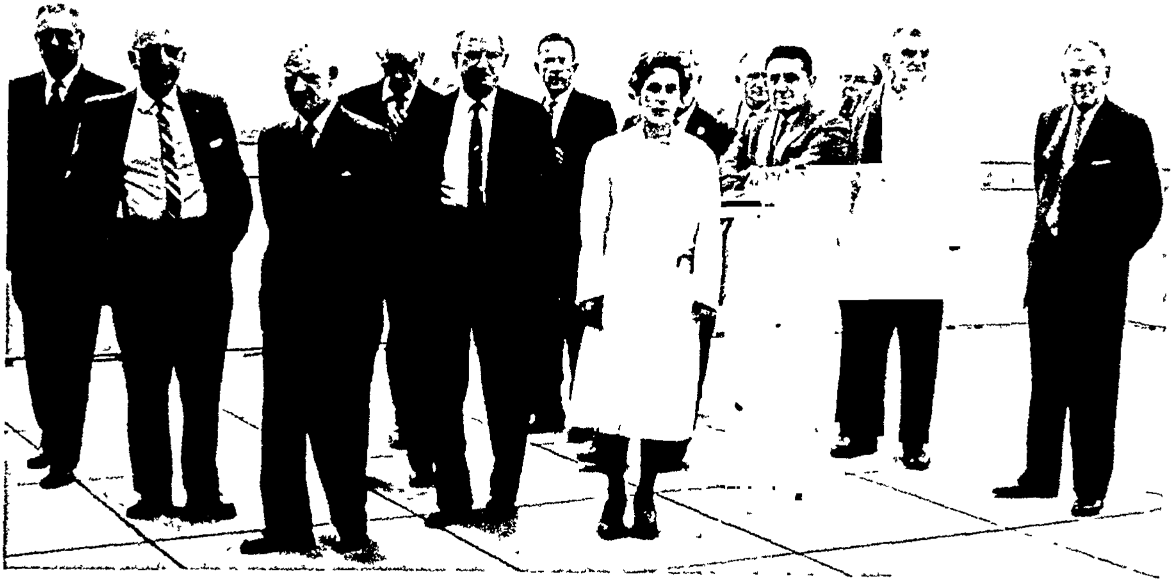
On the following morning we departed by plane for Rome and the Twelfth Biennial Congress of the International College of Surgeons accompanied by Dr. Max Lange. Dr. Margret Lange stayed at home with her children.

The Rome meeting will be my subject for the next *Bulletin.*

Edward L. Compere



Orthopedic surgeons, their wives and friends with Father Lang and Drs. Margret and Max Lange at the entrance to the Church of Andechs



Dr. Margret Lange with Drs. Lutz, Durman, Leidig, Turner, Winkler, Hakala, Minear, Leani, Schwartz, Epstein and Tucker on the sun roof of the clinic

and her husband. Her book, which describes their experiences in the United States, is entitled *Yes, Monsieur.*

From Paris we went by plane to Munich on May 11. Our plane was delayed two or three hours in departure from the Paris airport and, although we arrived late in the evening in Munich, we were met by **Drs. Max and Margret Lange** and several of the younger surgeons from the orthopedic hospital and clinic where Dr. Max Lange is the director. After a brief social hour at the airport restaurant, we were taken to the Hotel Bayerischerhof, which we found to be most comfortable and entirely satisfactory. Early the next morning the entire group of orthopedic surgeons was transported by taxicab to the Orthopedic Hospital and Clinic, which is on the outskirts of the town with open fields adjacent to it. There is also a large school for crippled children attached to one wing of the hospital. Drs. Margret and Max Lange greeted us upon our arrival, and introduced us to the Sister who is the Administrator of the Hospital. We were then conducted on a partial tour of the hospital before going into surgery. Prof. Lange performed several intricate and difficult operations, the technic of some of which was original with him. This included shortening of a femur to equalize leg length in a young adult female and a derotation osteotomy for anteversion of the neck of the femur in a child who had been treated for congenital dislocation of the hip.

We were shown a large number of very interesting cases after the surgery, and Dr. Margret Lange presented a paper in very good English, giving an internist's viewpoint with regard to various bone tumors, especially those which arise from the bone marrow. This paper was accompanied by beautiful slides which were projected in color on the screen as they were described by Dr. Lange.

A very delicious luncheon was served in the cheerful atmosphere of the new hydrotherapy department and during the afternoon the entire group was taken by bus on a tour of the city and out into the country to see Nymphenburg Palace, royal abode of the former kings of Bavaria.

Our Board of Regents

ARIZONA

THOMAS H. BATE

M.D., F.A.C.S., F.I.C.S., D.A.B.

Phoenix, Arizona

A native Arizonian (Prescott, 1906), **Dr. Thomas H. Bate,** regent for the United States Section of the International College of Surgeons in Arizona, was educated at the Prescott elementary and high schools and at the University of Arizona, graduating in 1928 with the degree of B.A. He studied medicine at Wayne University College of Medicine, in Detroit, Michigan, which conferred upon him the degrees of M.B. *(magna cum laude)* (1933), M.D. (1934) and M.Sc. (surgery) (1936). He is a member of the honorary fraternities Pi Alpha Kappa and Alpha Omega Alpha.

Dr. Bate has been certified by the American Board of Surgery; is a Fellow of the American College of Surgeons and of the International College of Surgeons, and belongs to the Southwestern Surgical Congress, the Southwestern Medical Association, the American Medical Association, the Arizona State Medical Association, the Maricopa County Medical Society, the Phoenix Clinical Club and the Phoenix Surgical Society.

Numerous Hospital Affiliations

In addition to engaging in private practice as general surgeon, Dr. Bate is medical director of the Maricopa County General Hospital and serves as senior consultant in surgery at the Veterans Administration Hospital in Pheonix and the Base Hospital at Williams Air Force Base in Chandler, and at the following Phoenix hospitals: St. Joseph's, Good Samaritan, Memorial, St. Luke's, John C. Lincoln, Arizona Tuberculosis Sanitarium, Arizona State Hospital and the Southside District Hospital at Mesa.

Dr. Thomas H. Bate

Distinguished Service in World War II

During World War II Dr. Bate served as chief of surgery, with the rank of colonel, in a two-thousand-bed hospital in the European theatre and was the recipient of a bronze star and two battle stars.

Dr. Bate has made several noteworthy contributions to the literature and has held numerous offices in the various surgical organizations to which he belongs.

Our Board of Regents

ALABAMA

PAUL W. SHANNON

M.D., F.I.C.S., D.A.B.

Birmingham, Alabama

Dr. Paul W. Shannon

As regent for the United States Section of the International College of Surgeons in Alabama, alphabetically the first state in the Union, the name of **Dr. Paul W. Shannon** leads all the rest.

Dr. Shannon, orthopedic surgeon and associate professor of orthopedic surgery at the University of Alabama Medical College, is on the staffs of University, Birmingham Baptist, Children's, East End Memorial and Veterans Hospitals, as well as of South Highlands Infirmary, Crippled Children's Hospital and Clinic, Alabama State Crippled Children's Service and Alabama State Rehabilitation Service.

Dr. Shannon was born in 1905 at Tiffin, Ohio, and attended its public schools. In 1927 he received an A.B. degree from Heidelberg College in Tiffin and in 1931 his medical doctorate from the University of Michigan Medical School. After a rotating internship at Youngstown City Hospital, he took postgraduate orthopedic training at Children's and at Massachusetts General Hospitals and served a residency at Boston City Hospital from 1933 to 1936.

Orthopedic Surgeon

He is a Fellow of the American Academy of Orthopaedic Surgeons and the International College of Surgeons, a diplomate of the American Board of Orthopaedic Surgery and a member of the Southeastern Medical Society, the American Medical Association and the Southern Medical Association.

Dr. Shannon is married and the father of five children. He has been practicing orthopedic surgery in Birmingham since 1936.

Annual Section Meetings in Alabama

The annual Alabama Surgical Section meetings are important scientific conferences and also outstanding regional events on the International College of Surgeons' calendar. It is Dr. Shannon's responsibility and privilege to serve as regent for the College in a distinguished state section that is a prominent participant in College matters.

papers. Shopping on the *Via Condotti* was a constant pursuit for most of us, and the round of beautifully planned social events caused us to adopt the Italian custom of the *siesta*.

Impressive Congress Functions

Sunday morning, May 18, many of us attended the colorful inauguration of the Congress. The cocktail party that evening, held in the courtyard of the Baths of Diocletian, now a museum, was an evening long to remember. Several thousand attended, and in the vast courtyard no one felt crowded. That evening I met **Frau Kurt Boshamer**, wife of the secretary of the German Section. She was very gracious, and, speaking in English, expressed the great love the German surgeons and their wives had for the late Dr. Max Thorek. I realized anew that we shared this deep affection with surgeons and their families all around the world. The same evening I caught a swift glimpse of **Dr. Harry E. Bacon** escorting two attractive ladies, **Mrs. Bacon** and their young daughter.

Another evening we drove out to the *Villa d'Este* at Tivoli. The villa stands in an attractive garden, or I, being an East Tennessean, would say it was perched up on the mountainside overlooking the garden with its magnificent fountain. One was overcome by the sheer beauty of the mountainside garden.

The fashion show presented by *Fontana* was a glamorous display of beautiful clothes by skilled mannequins. A tea hour followed the presentation. At our table we were joined by **Dr. Lucy Jolles Hezlovius** of Rome. She had been attending the Congress, but the feminine side of her was attracted to the fashion show. She spoke of her life as a doctor, the wife of a doctor and the mother of a daughter who also is a doctor. We three who sat at the table with her felt anew the impact of the word *international*.

We End the Week With a Ball

The closing event, on Wednesday, May 18, was the banquet, held at the *Palazzo dei Ricevimenti e dei Congressi*, and all of us agreed that it was the appropriate culmination to a week packed full with exciting, stimulating and spiritual wonders.

Virginia Whisman Niceley

I am interested in furthering the program of the Auxiliary to the International College of Surgeons. Enclosed is my check ($10.00 per member) covering membership(s) for the following:

NAME:

ADDRESS:

Make check payable to The Woman's Auxiliary, United States Section, International College of Surgeons, 1516 Lake Shore Drive, Chicago 10, Illinois.

Woman's Auxiliary

THE PRESIDENT'S MESSAGE

The Pleasures of the Roman Congress

Mrs. Park Niceley

To try to recapture effectively in mere words the thrill of being in Rome for the Twelfth Biennial International Congress is beyond your president's skill. To many of us, seeing Rome for the first time was a new adventure in an old, old setting, for in the Eternal City the historical influence of the Roman past on our Western culture is strongly felt.

We also experienced the pleasure of renewing old friendships, forming new ones and widely extending our circle of acquaintances.

Several members of the board were in attendance, including **Mrs. Earl Ingram Carr**, our charming immediate past-president; **Mrs. William G. Thuss**, a vice-president; **Mrs. Leo J. Adelstein**, membership chairman, and **Mrs. Edward L. Compere** and **Mrs. Neil W. Woodward**, members of the board.

Among other prominent members of the Auxiliary who were present were **Mrs. Horace E. Turner** and **Happy Turner**; **Mrs. Claude J. Hunt** of Kansas City, Missouri; **Mrs. John B. O'Donoghue** of Chicago; **Mrs. Edwin J. Grace** of New York City; **Mrs. Simon Reisler** of Indianapolis; **Mrs. Merlin Hagedorn** of Alabama; **Mrs. Albert C. Esposito** of Huntington, West Virginia; **Mrs. Kenneth C. Sawyer** of Denver, Colorado; **Mrs. Henry M. Scheer** of New York City, and **Mrs. Floyd R. Parks** of Los Angeles, California.

Friends from Canada

Our Canadian friends were well represented. I particularly recall **Dr. Lyon H. Appleby** and his son **Peter**, the **E. N. C. McAmmonds** traveling with their young daughter, and **Dr.** and **Mrs. Samuel S. Peikoff** of Winnipeg. Dr. Peikoff is general chairman of the Joint Meeting of the Canadian and United States Sections of the International College of Surgeons and Mrs. Peikoff heads several important committees of the Women's Auxiliary to the Canadian Section planning an interesting program of activities for women guests. (**Mrs. Albert C. Abbott** of Winnipeg is general chairman of the occasion on behalf of the ladies.) The meeting will be held September 28-29, in Winnipeg, a meeting we are all looking forward to.

It was my regret that we could not meet as an Auxiliary while we were in Rome, but one had only to have been there to realize how difficult that would have been to arrange. The scientific programs drew many ladies displaying their wifely pride in their husbands' scientific papers. Shopping on the *Via Condotti* was a constant pursuit for most of us, and the round of beautifully planned social events caused us to adopt the Italian custom of the *siesta.*

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A natureza fisiológica do escroto é discutida.

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Important Notice to all Journal Contributors

PLEASE NOTE AND ACT UPON the following points in submission of your manuscripts:

1. Every article intended for publication in the Journal should be **typewritten in double or triple space** and sent DIRECT to the Editorial Office, Journal of the International College of Surgeons, 1516 Lake Shore Drive, Chicago 10, Illinois, together with all illustrations, legends, tabular matter, bibliographic references the author desires to include. Manuscripts so submitted will be promptly acknowledged and, on acceptance by the Editorial Board, published as soon as possible. The Journal **cannot be held responsible for loss, failure of acknowledgment, delay in publication or nonpublication of any manuscript, or any subsidiary material appertaining thereto, which has not been submitted through the official editorial channels.**
2. Every article presented at any Regional, National, International or Federation Congress of the International College of Surgeons, if Journal publication is desired, should be submitted in the same manner, PLAINLY MARKED with the **name, date and location of the Congress at which it was presented.**
3. Manuscripts **delivered in person to Congress officials or others** have NOT been submitted for publication in the Journal. The Editorial Office has no way of knowing whether they were delivered for publication or for press purposes only.
4. Manuscripts delivered to Congress officials or others **for press purposes only** should be sent by the recipient to the Public Relations Bureau of the International College of Surgeons, NOT to the Editorial Office.
5. If illustrations are desired and it is impossible to submit them at the time the manuscript is submitted, the notation "Illustrations to come" should accompany the latter; otherwise the article may be scheduled for publication before the illustrations have arrived. The Journal absorbs the cost of three halftone illustrations four inches high, or the equivalent thereof. The author may include additional illustrations as desired.

These requests are made not only to safeguard the Journal from error but in the best interests of our contributors. To make sure of prompt acknowledgment and efficient handling of your Congress presentation, please send it DIRECT to its ultimate destination!

Neurologic Surgery

Pneumoencephalographic Study with Helium and with Minimal Withdrawal of Cerebrospinal Fluid

JOSÉ ANTONIO RODRIGUES, M.D.[*]

AND

JOSÉ GERALDO ALBERNAZ, M.D., F.A.C.S., F.I.C.S.[**]

BELO HORIZONTE, BRAZIL

Tolerance of pneumoencephalographic procedures done without removal of cerebrospinal fluid and with helium used as the contrast medium is the topic here discussed. The available literature is reviewed. Thirty-five patients were observed, and the results are presented, with the following conclusions:

1. The patient's reactions to pneumoencephalographic study when no spinal fluid is removed and helium is used as contrast medium are usually of short duration and not severe.

2. As a result, the patients usually cooperate well and rarely require postoperative medication. Ordinarily, too, they need be hospitalized only for short periods.

PNEUMOENCEPHALOGRAPHIC investigation, a valuable diagnostic procedure for the neurologist and neurosurgeon, is still considered a source of great discomfort to the patient.

Since Dandy's original work,[1] modifications of the technic of pneumoencephalography have often been proposed. Details pertinent to preoperative medication, anesthesia, positioning of the patient, amount of cerebrospinal fluid removed, type of gas used, postoperative care, etc., have been studied by many different workers, who have endeavored to make pneumoencephalographic examination simple and well tolerated.

Hence comes our interest in selecting a pneumoencephalographic technic that would cause the least possible inconvenience to the patient. For the time being, we have decided to limit our study to two and nonfiltered air into 40; he arrived at the conclusion that the immediate headaches were identical in the two groups but that the secondary reactions were lighter in those cases in which filtered air had been injected. Trying to find a less irritating gas, he used carbon dioxide, but soon abandoned it because of its high solubility in the spinal fluid. It was his opinion that reactions to nitrogen were only slightly lighter than reactions to air; after using water-filtered helium in 12 cases, he reported less severe reactions than with any other gas he had tried.

Newman[5] studied 8 cases of pneumoencephalographic study with nitrous oxide: the radiologic results were poor, owing to the high rate of absorption of this gas from the subarachnoid spaces; the immediate reactions were similar to those induced by air; there was no evidence of anesthesia or sedation, but in the author's opinion the secondary reactions were greatly diminished. He also tried ethylene in 28 cases, with similar results. He mentioned lowering of the hospitalization period from three days (with air) to one and eighty-five hundredths days (with ethylene).

Aird[6a] also tried both, nitrous oxide and ethylene. He confirmed the rapid absorption of nitrous oxide, resulting in poor roentgen pictures, and recommended the use of ethylene as less irritating than air and capable of limiting the secondary reactions to an average duration of thirty hours. One year later, however, the same author[6b] reported on 164 patients submitted to ethylene pneumoencephalographic study, with an incidence of 20 per cent of severe reactions.

In 1942, Cleveland and End[7] studied helium as a contrast medium and oxygen for postoperative inhalation in pneumoencephalographic examination; they reported highly satisfactory results. According to these authors, the relief of symptoms is related to the disappearance of the gas from the subarachnoid spaces. As it is not feasible to aspirate it back, it must leave through the stream and the lungs. The rate of transference of the gas from the subarachnoid spaces, through the capillary blood vessels to the stream varies with certain physical factors, as is pointed out by the authors: (1) difference of concentrations of the injected gas in the subarachnoid spaces and in the blood, and (2) diffusibility of the gas. The diffusibility of a gas is related to the size of its molecule; light gases, made up of small molecules, become diffused more rapidly than do heavier ones. As stated by Graham's law, the index of diffusibility of a gas is inversely proportional to the square root of its molecular weight. Thus, helium, nitrogen and oxygen, with molecular weights of 4, 28 and 32, have a diffusibility rate inversely proportional to 2, 5.3 and 5.7, respectively. In other words, the speed of diffusibility of helium is almost three times that of nitrogen or oxygen. Hydrogen, the only other gas more diffusible than helium, would have, for pneumoencephalographic purposes, the disadvantage of being combustible. Roentgen pictures, taken repeatedly at different intervals, demonstrate the greater speed of absorption of helium from the subarachnoid spaces, as compared to oxygen or air. Once a gas is introduced into the subarachnoid spaces, there will be exchange of gases between these spaces and the blood. If air is used, its oxygen is readily absorbed by the capillary blood, but other gases such as nitrogen and carbon dioxide, pass from the blood to the subarachnoid spaces, until a certain equilibrium is established. There will be a complex mixture of the gases, with slow absorption. When the patient breathes pure oxygen, instead of plain air, the carbon dioxide and the nitrogen from the blood are more promptly removed at the pulmonary alveoli, which prevents, in part, the diffusion of these gases toward the subarachnoid spaces. There are therefore two factors favoring the use of helium in pneumoencephalographic studies: the rate of diffusion and the lack of helium in the blood.

Davidoff and Dyke,[8] comparing different gases for this purpose, concluded that oxygen is less irritating than air and that helium is even less irritating than oxygen.

Grinker and Bucy[9] also prefer helium; they advise 55 to 60 cc. of helium to be exchanged with a similar amount of spinal fluid and report of pronounced decrease in postoperative headaches, nausea and vomiting, as well as perfect tolerance of the examination with no need of general anesthesia.

We have therefore selected helium as the gas of choice for pneumoencephalographic procedures and have used it for several years, following essentially the technic described by Grinker and Bucy.[9]

2. *Amount of Spinal Fluid Removed.*—Kasahara,[10] after experimental studies in rabbits, stated that transitory irritation of the meninges results from removal of large quantities of spinal fluid.

Petersen[11] has reported a decrease in spinal fluid pressure after pneumoencephalographic study, and, as a result, has advised that the quantity of air injected be greater than that of the fluid removed.

variable amounts, as necessary, to provide the desired filling of the ventricles and/or the subarachnoid spaces. After trying this procedure in 35 cases, they reported excellent tolerance: twenty-four hours after the examination there were no patients complaining of headache.

Slosberg[14] has recently compared the results of 65 pneumoencephalographic examinations done without spinal fluid removal with those of 20 cases with removal; reactions were less severe in the first group. He is convinced that most lipotimias observed when his technic is used may be due to rapid introduction of air into the subarachnoid spaces and recommends, as a rate of injection, only 8 cc. of air per minute.

These studies on the effects of removal of large amounts of spinal fluid, and particularly the satisfactory results reported by Slosberg, Bornstein and Lichtenstein,[15] have prompted us to accept a technic that can be employed without removal of cerebrospinal fluid and to employ as a contrast medium.

Material and Methods.—This is based on observations of 35 patients, most of them with convulsive disorders, examined pneumoencephalographically in our services from Jan. 1, 1956 to Feb. 5, 1957. Helium was injected by the lumbar route, without removal of spinal fluid or with

(4) the use of helium gas used as the only contrast medium, and (5) no administration of oxygen in the postoperative period.

The technic used was as follows:

1. *Preoperative Care:* Most patients were admitted to the hospital on the morning of the examination, without breakfast. Adults were given, one hour before the gas injection, one capsule (100 mg.) of Nembutal; this was followed, in half hour, by 1 ampule of Dilaudid-Scopolamin (0.002 gr. of dihidromorphinone chlorohidrate and 0.0003 gr. of scopolamine chlorohidrate), administered intramuscularly. For children these doses were appropriately decreased. In rare instances other drugs were used for premedication; however, they were always barbiturates given by mouth and opiates with scopolamine or atropine given parenterally.

2. *Puncture Technic:* With the patient sitting on a special chair, provided with a comfortable headrest, having his head flexed in intermediate position and his vertebral column slightly flexed, the fourth lumbar interspace was entered with a No. 20 lumbar puncture needle, after the usual antiseptic precautions and the intradermic infiltration of 1 per cent procaine hydrochloride.

3. *Manometric Study:* Spinal fluid pressure was measured with a water manometer of the Ayer type. We considered normal all levels that did not go higher than the probable level of the fluid inside the ventricles. Then, in some cases, up to 10 cc. of fluid was removed for laboratory studies; in the other cases only a few drops of fluid were lost with the pressure readings.

4. *Introduction of Gas:* Filtered through boiled water, at a temperature of 37 C, helium was injected in amounts of 10 cc. each thirty seconds, up to 50 cc.; a few patients were given as little as 40 cc. and others as much as 80 cc. of helium.

5. *Immediate Postpuncture Care:* After the gas injection and removal of the needle, the patient was taken to the roentgen department, and as many plates were obtained as seemed necessary; frequent changes of his position on the roentgen table were in many instances needed. After the examination he was allowed to rest, lying on his back, with the head elevated about 30 degrees. No oxygen was used. The patient was carefully observed and his complaints noted. Analgesics were used as needed.

Results.—The accompanying table summarizes some data on these patients, such as age, sex, race, amount of spinal fluid removed, amount of helium injected, filling of the ventricles, cooperation of the patient during the examination, need of postoperative medication and duration, in hours, of the hospitalization required.

The patient's reactions will be analyzed in greater detail.

1. *Immediate Reactions:* We consider *immediate* those reactions which accompanied introduction of the gas and persisted during the procedure.

Headaches were considered severe when the patient complained much or became restless and unable to cooperate well with the examiners. They were called light when the patient described them as such and cooperated satisfactorily with the entire procedure. We registered absence of headache only when the patient denied having any even after we had told him he should expect it.

Vomiting and lipotimia were analyzed according to their frequency.

Sweating was called intense when generalized and light when present only in the face and/or the hands.

Convulsions were observed and described according to clinical type.

2. *Late Reactions:* We consider those reactions late that continued or appeared

Data on 35 Cases

Case	Age of Patient	Sex of Patient	Race of patient	Fluid Removed, cc.	Helium Injected cc.	Ventricular Filling	Patient's Cooperation	Postoperative Medication	Hospitalization, Hours
1	26	F	W	—	50	Good	Fair	No	24
2	53	M	W	10	50	Good	Good	No	24
3	11	F	W	—	40	Good	Good	No	24
4	14	M	C	10	50	Good	Good	Yes	24
5	42	M	W	—	50	Good	Good	No	24
6	16	F	W	—	50	Good	Good	Yes	24
7	44	M	W	10	50	Good	Poor	No	24
8	70	M	W	10	60	Good	Good	No	24
9	11	M	C	10	50	Good	Good	No	24
10	33	M	W	10	50	Good	Good	No	24
11	39	M	W	10	50	Good	Poor	Yes	48
12	23	M	W	10	50	Good	Good	No	24
13	32	F	C	10	50	None	Good	No	24
14	46	M	C	10	50	Good	Good	No	24
15	14	F	W	10	50	Good	Fair	No	24
16	35	F	W	—	50	Good	Good	No	24
17	38	M	W	—	50	Good	Fair	Yes	48
18	27	M	W	10	50	Good	Good	No	24
19	4	F	W	10	40	None	Fair	No	24
20	57	M	W	—	80	Good	Good	No	16
21	14	F	W	—	60	Good	Fair	Yes	24
22	29	M	W	10	50	Good	Fair	Yes	24
23	11	M	W	10	50	Good	Poor	No	24
24	16	M	W	10	50	Good	Good	No	24
25	67	M	W	10	50	Fair	Fair	No	24
26	27	F	W	10	50	Good	Good	No	24
27	57	M	W	10	50	Good	Fair	Yes	24
28	19	M	W	10	50	Good	Good	No	24
29	16	M	C	—	50	None	Good	No	24
30	15	M	W	—	50	Good	Good	Yes	24
31	16	M	W	10	50	Good	Good	No	24
32	44	M	W	—	50	Good	Good	No	24
33	[illegible]	M	W	—	50	Good	Fair	Yes	[illegible]
34	[illegible]	M	W	10	[illegible]	Fair	Good	No	[illegible]
35	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Good	[illegible]	[illegible]	24

Immediate

1. Headache:
   Severe: 13 cases in 35 (37.1 per cent)
   Light: 18 cases in 35 (51 per cent)
   Not present: 4 cases in 35 (11.4 per cent)

In a satisfactory number of cases there was only light headache or none at all.

2. Vomiting:
   Frequent: 1 case in 35 (2.8 per cent)
   Rare: 5 cases in 35 (14.2 per cent)
   Not present: 29 cases in 35 (82.8 per cent)

In the great majority of the cases vomiting did not occur; it was frequent only in 1 case.

3. Lipotimia:
   Not present: 29 cases in 35 (82.8 per cent)
4. Convulsions:
   Clonic generalized: 1 case in 35 (2.8 per cent)
   Jacksonian: 2 cases in 35 (5.7 per cent)

Lipotimia and convulsions were present in few cases.

5. Sweating:
   Intense: none
   Light: 2 cases in 35 (5.7 per cent)
   Not present: 33 cases in 35 (94.3 per cent)

This was a very small incidence of sweating; when present, it was never intense.

Late

1. Headache
   Severe: none
   Light:
   - (a) duration up to six hours: 12 cases in 35 (34.2 per cent)
   - (b) duration up to twelve hours: 9 cases in 35 (25.7 per cent)
   - (c) duration up to twenty-four hours: 7 cases in 35 (20 per cent)
   - (d) duration up to forty-eight hours: 1 case in 35 (2.8 per cent)

   Not present: 6 cases in 35 (17.1 per cent)

The percentages of patients without late headaches and with headaches of short duration were satisfactory. It should be pointed out that no patient complained of severe headache.

2. Vomiting:
   Frequent: none
   Rare: 4 cases in 35 (11.4 per cent)
   Not present: 31 cases in 35 (88.6 per cent)

In short, vomiting, as a late reaction, did not cause any concern.

3. Drowsiness:
   Intense: 8 cases in 35 (22.8 per cent)
   Light: 17 cases in 35 (48.5 per cent)
   Not present: 10 cases in 35 (28.5 per cent)

Drowsiness was observed in 71.5 per cent of the cases, but it should not be forgotten that the patients had been given barbiturates and opiates prior to the examination.

COMMENT

Almost everyone writing on pneumoencephalography has referred to headaches of immediate onset and variable duration.

Using atmospheric air, Hagenau,[15] Friedman, Snow and Kasanin,[16] Pancoast and Fay,[17] Solomon and Epstein,[18] Vincent, Rappoport and Berdet,[19] Liberson,[4] Bohn,[20] Schwab, Fine and Mixter,[21] Brain,[22] Delay, Soulairac and Desclaux,[23] Nielsen,[24] Kornreich,[25] and Trowbridge, Bayless and French[26] reported headache of one to five days' duration. Longer periods were reported by Schott and Eitel[27] (twelve days); Buchanan[28] (fourteen days); Aird[6a] (seven to ten days); Newman[5] (twenty-one days); Marotta and Bustos[29] (three to ten days), and Turner and Brody[30] (two months and seven days).

We have already mentioned several authors who have recommended the use of oxygen as contrast medium. Casamajor, Laiplan and Kozinn,[31] working with children, reported fewer reactions with this gas than with air.

Good results with helium were reported by Liberson[4] and by Grinker and Bucy.[9] Cleveland and End[7] observed, in patients in whose cases helium was used and no oxygen was given postoperatively, an average of eighteen hours' duration of the symptoms. Davidoff and Dyke[6] reported headaches lasting from one to five days with helium pneumoencephalographic study; they further stated that oxygen is less irritating than air and helium less irritating than oxygen. On the other hand, Trowbridge, Bayless and French[26] observed no significant difference in the results of using helium as those of using air.

Slosberg, Bornstein and Lichtenstein[13] encountered few reactions with the use of air, when the pneumoencephalogram was done without removal of spinal fluid. Observing 35 patients, they reported the following results: 1. During the injection of gas, 27 patients complained of headaches, severe in 20; 7 had nausea and vomiting; 1 complained of paresthesias, and 2 had convulsions (1 generalized and 1 of the Jacksonian type). 2. One or two hours later, headache had disappeared in 4 of the 27 patients with a headache and had patient complained of headache.

We believe that the use of helium instead of air allowed our patients even less discomfort than reported by Slosberg, Bornstein and Lichtenstein.[13] The late reactions include no severe headache, no convulsions and very rare vomiting. As for the immediate reactions, our incidence of lipotimias (17.1 per cent) and convulsions (11.4 per cent) seems to result, as was pointed out by Slosberg,[14] from the rapid introduction of the gas into the subarachnoid spaces; instead injecting 10 cc. of helium each thirty seconds, as we did in all of our 35 cases, we adhere now to Slosberg's advice that no more than 8 cc. be injected each sixty seconds.

As a result of the low incidence of severe reactions, we were able to secure good cooperation from the majority of patients, needed no postoperative medication of any kind in 74.2 per cent and were able to discharge all but 3.

We agree with Schwab, Fine and Mixter,[21] Fine, Hermanson and Frehling,[22] Turner and Brody,[30] Cleveland and End,[7] Grinker,[24] Kornreich,[25] Grinker and Bucy[9] and Davidoff and Dyke[6] that the postoperative inhalation of oxygen may further relief, but we omitted it in the present series in order to observe thoroughly the patients' reactions to the technic used.

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2a.) Como resultado, o paciente coopera bem com o exame, raramente necessita medicação pós-operatória e às mais das vêzes exige períodos de hospitalização de pequena duração.

RESUMEN Y CONCLUSIONES

Se trata en este trabajo de la tolerancia de los mètodos neumoencefalográficos sin extracción de líquido cerebroespinal y empleando el helio como medio de contraste. Se pasa revisión a la literatura de referencia. Se han estudiado 35 casos y se llega a las siguientes conclusiones.

1.— La reacción del enformo al estudio neumoencefalográfico cuando no se extrae el l.c.v. y se usa el helio como contraste es de poca importancia y de corta duración.

2.— Como consecuencia de ello los enfermos colaboran bien y raramente requieren medicación postoperatoria siendo e tiempo de hospitalización de períodos sumamente cortos.

SUMARIO E CONCLUSOES

Discutem a tolerancia dos metodos pneumoencefalograficos feitos sem remoção de liquer e usando como contraste o helium. Fazem revisao da literatura e dizem que observaram 35 pacientes sobre os quais apresentam as seguintes conclusoes:

1. As reações são de curta duração e brandas usando-se o helium sem retirada de liquido;

2. Como resultado o doente coopera bem raramente desejando medicação posoperatoria e fica hospitalizado por curto periodo.

ZUSAMMENFASSUNG UND SCHLUSSFOLGERUNGEN

Die Verträglichkeit der Pneumoenzephalographie ohne Ablassen des Liquors und unter Verwendung von Helium als Kontrastmittel wird erörtert. Über die einschlägige Literatur wird berichtet. Die an 35 Patienten beobachteten Resultate führen zu den folgenden Schlussfolgerungen:

1. Die Reaktionen von pneumoenzephalographisch ohne Absaugung der Spinalflüssigkeit und unter Verwendung von Helium als Kontrastmittel untersuchten Patienten sind gewöhnlich von kurzer Dauer und nicht schwerer Art.

2. Infolgedessen zeigen die Patienten gewöhnlich gute Kooperation; sie brauchen nur selten Arzneigaben nach dem eingriff und können im allgemeinen nach sehr kurzer zeit aus dem Hospital entlassen werden.

RÉSUMÉ ET CONCLUSIONS

Les auteurs présentent une étude sur la tolérance de la pneumoencéphalographie sans évacuation du liquide cérébrospinal, en prenant l'hélium comme moyen de contraste. Ils passent en revue la littérature parue à ce sujet et exposent leurs résultats dans 35 cas, aboutissant aux conclusions suivantes:

1. Les réactions présentées par les malades sont en général minimes et de courte durée.

2. La collaboration entre opérateur et malade est en général bonne. Un traitement postopératoire est rarement nécessaire et le plus souvent l'hospitalisation est de courte durée.

RIASSUNTO E CONCLUSIONI

Viene trattata la tecnica della pneumoencefalo-grafia seza estrazione di liquor e con l'impiego dell'elio come mezzo di contrasto. Furono studiati 35 pazienti, con i seguenti risultati:

1. Le reazioni del malato sono di breve durata e non gravi;

2. Il malato di solito coopera bene, raramente necessita di medicazioni post-operatorie e usualmente deve essere ospedalizzato solo per un breve periodo di tempo.

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Acute Carcinomatosis

SAMUEL ROSNER, M.D., F.I.C.S., AND A. ALFRED ZIVIELLO, M.D., F.I.C.S.

BRONX, NEW YORK

A case is reported in which a middle-aged woman, operated on for an extradural fibroma six weeks earlier, presented multiple malignant cutaneous masses within two days. On the day after excision of two of these masses the patient was in status epilepticus and died the next day. The diagnosis was carcinoma metastatic to the skin, probably from a primary tumor of an internal organ. Permission for autopsy was refused.

THIS is the case history of a patient who died of acute carcinomatosis after having undergone operation for an extradural fibroma of the cauda equina about six weeks earlier.

The patient was a 54-year-old woman on whom venous ligation of the lower part of the right leg was performed in April 1958. In March she began to complain of low back pain radiating down the left leg. In the middle of June incontinence of urine and feces developed, with progressive numbness of the anal area and both buttocks. The patient complained of generalized weakness.

In April she had complained of a sudden pain in the right side of the head, shooting into the right ear and down the side of the head.

The pertinent neurologic observations were bilateral absent ankle jerks, weakness of the anal sphincters and hypesthesia of the anal orifice and the vaginal-urethral area.

It was my opinion that a pressure syndrome existed at the cauda equina, at about the first sacral segment, and that the pressure was possibly due to a herniated disc or a neoplasm.

Myelographic study and surgical intervention were recommended and carried out on the same day, June 25. The former revealed an indentation of the column of dye at the first sacral level. The appearance was that of a tumor mass presenting posteriorly at that level.

Laminectomy was carried out as an emergency procedure. An extradural fibroma compressing the cauda equina from behind forward at the first and second sacral levels was removed completely. The pathologic status was confirmed by the hospital pathologist, whose description follows:

"*Gross*: Many small pieces of tissue from the spine—fibrous and calcific.

"*Microscopic*: Consists of fibrous tissue with small areas of degenerating cartilage. The fibrous tissue contains relatively few nuclei; these show pleomorphic changes.

"*Diagnosis*: Benign fibroma with degeneration of cartilage."

Roentgen examination of the chest revealed *increased density* at the left hilus.

There was no evidence of consolidation, infiltration or pleural effusion.

Roentgen examination of the gastrointestinal tract by means of a barium meal revealed the esophagus, stomach and small bowel to be normal.

Dr. Ziviello made a note on August 2 concerning the sudden formation of "multiple hard skin masses in the scalp, arms, abdomen, etc. Seem to be increasing rapidly. Abdomen: Liver enlarged and tender, palpable spleen. Malignancy must be thought of — *unknown cause.*"

On August 3 convulsions developed. These were generalized, although there were seizures involving the right side at first.

Dr. Ziviello excised two of the nodes, which were subsequently examined microscopically by Dr. Aronson, the hospital pathologist. The microscopic diagnosis was: "Growth from back."

The specimen revealed a pleomorphic malignant epithelial growth invading the skin and fascia. There appeared to be an attempt

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at gland formation. The diagnosis was metastatic carcinoma of the skin.

Later on August 3 the patient went into status epilepticus. She never regained consciousness, despite some alleviation in the number of attacks as a result of medication. She died on August 5.

SUMMARY AND CONCLUSIONS

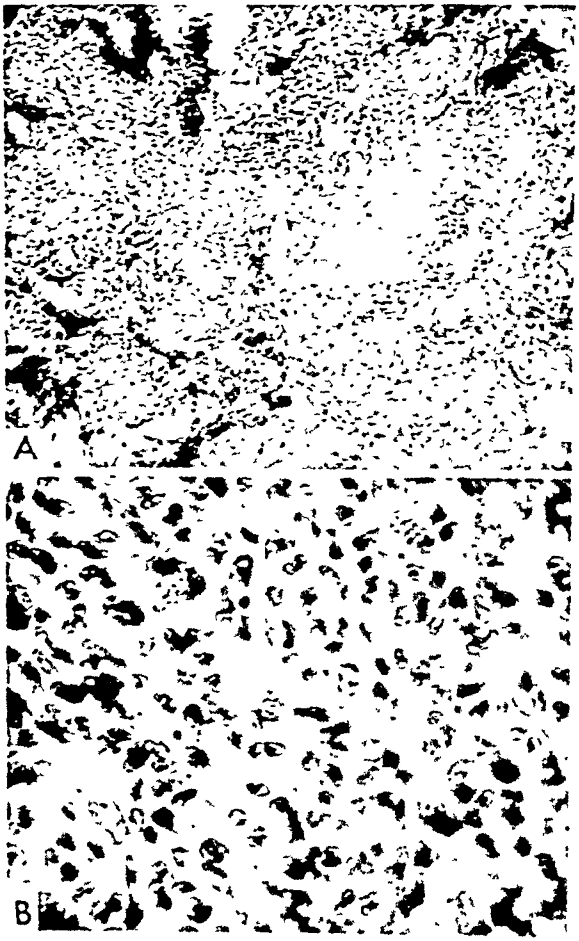
A case is reported in which a middle-aged woman, who had been operated on for an extradural fibroma six weeks earlier, presented multiple cutaneous masses within two days. These masses increased in number and in area covered. The day after excision of two of these masses, the patient was in status epilepticus and died the next day. A request for postmortem examination was refused.

The microscopic diagnosis was metastatic carcinoma to the skin (primary, probably, in internal organs).

The only signs suggestive of pathologic change in the internal organs were an area of increased density at the hilum of the left lung and an increase in size of the liver and spleen.

The rapid spread of these multiple tumors is highly significant in the light of present belief that there may be a viral cause of malignant disease. In the authors' opinion, this is the first description of acute carcinomatosis to be published.

Acknowledgment.—Sincere thanks are offered to Dr. William [illegible] for his help with the pathological diagnosis.



Low power (A) and high power (B) photomicrographs of specimen.

rigid marching step of the German Army in 1935. The extensive use of skis and snowshoes may have had some relation to the large number of fractures noted in the Swedish and Finnish Armies.

In 1938 Hansson introduced the term "insufficiency fracture," in reporting 2 fractures of the tibia and 1 of the femur. He demonstrated that such fractures occur not only in the metatarsals but in the tibia, the femur and perhaps other bones. Of significance in his cases was the observation that the fracture line was not always seen on the roentgen film.

Perhaps it was because of no compulsory military training that march fractures of the tibia were not described in the American literature prior to the early 1940's. In fact, the first report came in 1939 from Roberts and Vogt, who observed 12 such fractures in children over a four-year period. In their opinion this group represented a new clinical entity, which they called pseudofracture. The location, the age of the children (from 4 to 16 years), the roentgen observations and the response to treatment make it almost certain that these were examples of the now well recognized stress fracture of the tibia.

After World War II broke out and a large proportion of the world's youth became involved in rigorous training, the reported incidence of tibial march fracture increased. In 1958, Devas summarized all reported cases, a total of only 78. Most

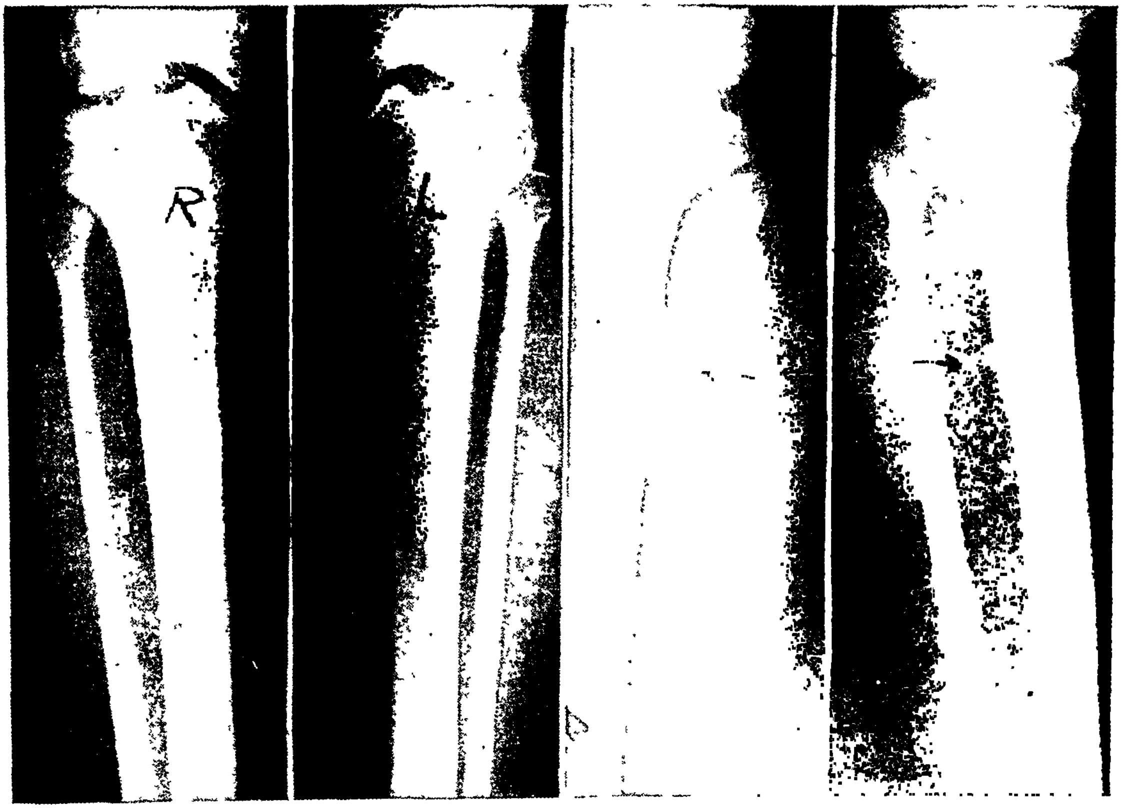


Fig. 2.—Case of an 18-year-old private admitted to hospital with bilateral stress fractures. Symptoms have been present for four weeks. *Left*, very slight periosteal proliferation about tibia, 4 inches (10 cm.) below knee. *Right*, lateral view, on which callus is much more evident. Thin fracture line was visible on original film. Patient was treated at bed rest for four weeks, after which ambulation was permitted.

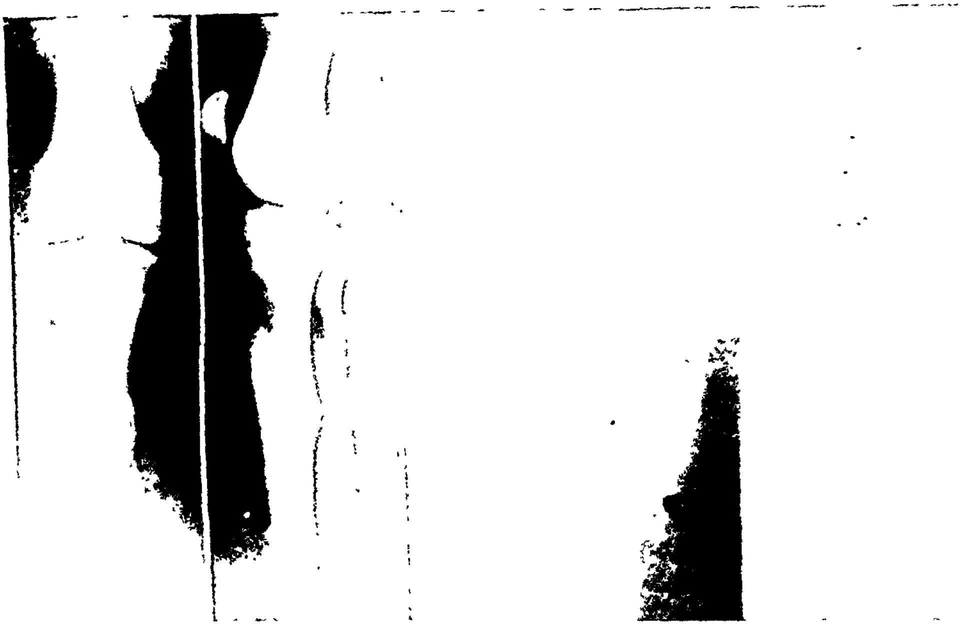


Fig. 3.—Case of a 23-year-old private who was being treated for stress fracture of left leg when pain developed in right leg. *Left*, admission roentgenograms; *right*, roentgenograms of right knee, with newly discovered stress fracture about 2 inches (5 cm.) below knee joint. After six weeks with no weight bearing for either leg, patient was asymptomatic and was returned to duty.

reports presented 2 or 3 cases, the largest previous consisting of 15 cases.

Differential Diagnosis. — The importance of these lesions of the tibia concern chiefly the surgeon and the roentgenologist, who must try to differentiate between malignant and benign bone tumor and osteomyelitis or thrombophlebitis. Frequently the exact nature of the process can not be determined until roentgenograms have been taken repeatedly, at spaced intervals and at diverse angles. Tabb and Packer emphasized the fact that the importance of stress fractures of the tibia lies in the differential diagnosis. One of their patients was thought to have Ewing's sarcoma and the other osteomyelitis, phlebitis, osteoid osteoma, subperiosteal hematoma and rupture of the gastrocnemius muscle.

Etiologic Factors. — The exact mechanism of production of the fatigue or stress fracture is a matter of speculation. It is not known why the bone of one recruit exposed to the same trauma as that of another will undergo the fracture while the other does not.

Robertson states that it is "from rhythmically repeated mechanical stress at the point of greatest bone bending which produces fractures of individual trabeculations. Metal breaks because crystallization occurs at the site of the fracture. It is interesting that crystallization occurs at the site of the fracture, by electron microscope."

Burrows, on the other hand, attributed the fractures to a distracting force at one cortex and a compression force at the opposite cortex on bending. According to Proctor, Campbell and Sobelle, the rhythmic mechanical stress is the alternate thrust of the body weight down each leg during each step; the tibia is bent anterolaterally with each step, the microtrauma occurs at the site of greatest bone bending (the upper part of the tibia), and when the saturation point of traumatism is reached, the fracture is complete.

Nickerson advised that more importance be attached to the fact that the site of the fracture is near the attached muscle bellies. This might affect the increased circulatory response over a prolonged period, say during a march. This in turn might result in localized nutritional changes, leading to decalcification of bone in a linear fashion similar to the "umbanzonae" described by Loeser in the so-called "milkman's syndrome." A weakening of the cortex might then lead to complete fracture under added trauma. Nickerson divided the mechanism into two phases: (1) local decalcification due to nutritional changes (initial stage) and (2) beginning break in the peripheral portion of the cortical layers. He suggested the term "insufficiency fracture" and made the diagnosis before the fracture line is apparent, merely by the early periosteal proliferation.

Perhaps the real cause of the fracture is a combination of several of the aforementioned theories. Most likely there is an early subperiosteal fissure in the cortex due to (1) fatigue from recurrent bending strains, (2) traumatic fissure from an earlier minor compression injury, such as that caused by stepping in a hole, or (3) osteoclasia (or gap) from local nutritional disturbances or disease, such as rickets, osteomalacia or hunger osteopathy.

When additional periods of added strain of an accentuated normal activity or abnormal amplitudes of a single stress combine with the cortical fissure, the actual fracture occurs, causing clinical symptoms. Frequently the fatigue fissure or traumatic fissure in the cortex may heal without going on to frank fracture. The location of the infraction in the cortex

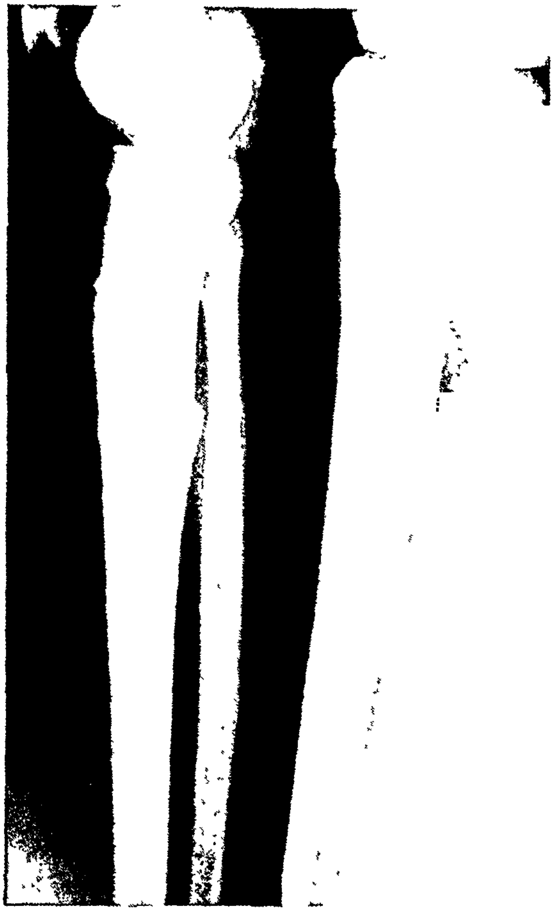


Fig. 4.—Roentgenogram showing abundance of callus in sunburst formation, which aroused strong suspicion of bone tumor. Serial roentgenograms revealed true nature of lesion: stress fracture.

that leads to the actual fracture seems to be determined by the location of the bone stress. Thus, in recruits, the greatest number of fractures occurs in the upper third; in ballet dancers, in the middle third, and in athletes, in the lower third.

Other investigators have studied the role of chemical and hormonal influences in causing the fractures. All serum studies *have failed to reveal any abnormality of* calcium, phosphorus, acid or alkaline phosphatase or other metabolites closely related to bone production. Investigation of body types, nationalities and occupations has also been fruitless. Most writers are convinced, however, that a point common to all histories is the repeated appearance of the lesion in persons who have been engaged in relatively inactive pursuits prior to being subjected to greater stress.

Pathologic Picture.—As the disease is not fatal, the study of pathologic specimens is rarely reported. Most microscopic sections have come from biopsies, so a complete section of the fracture site is not done. The specimens nearly always show fibrosis, cellular infiltration and typical bone regeneration and repair.

A more thoroughgoing study of a metatarsal stress fracture was reported by Hullinger and Tyler, who described the dynamic pathologic process as follows: "Because of repeated minimal trauma, there is an incomplete fracture of a few boney trabeculations, often not seen on roentgenogram. This is followed by hemor-

of calcium at the fracture with dehiscence becoming visible by X-Ray.

"If trauma ceases, the fracture then proceeds to orderly healing with complete repair. The periosteal callus becomes dense and spindle shaped and new trabeculations are seen traversing the fracture site. Variation of this picture depends upon the continuation of the trauma."

Clinical Manifestations.—*A review of* all cases of stress fracture of the tibia observed from July 1, 1954 to June 30, 1958, formed the basis for the following discussion. During this four-year period, 35 patients with such fractures were admitted to the orthopedic service. Fifteen were admitted in the six months from January 1 to June 30, 1958. In the first two years very few were admitted, but the incidence rapidly increased after the First Marine Division returned from overseas duty in 1946. Earlier, many of the dispensary physicians were unaware of the existence of such fractures, and the "negative" roentgenograms misled them in the treatment in the early stages. The sudden increase in the number of admissions during the later part of the study was probably directly related to the degree of suspicion aroused by the dispensary medical officer.

The patients ranged in age from 17 to 23 years, with an average age of 18. There was no correlation between body build and the incidence of fracture. All body types were included, from a man 5 feet 3 inches tall, weighing 143 pounds (64.9 Kg.),

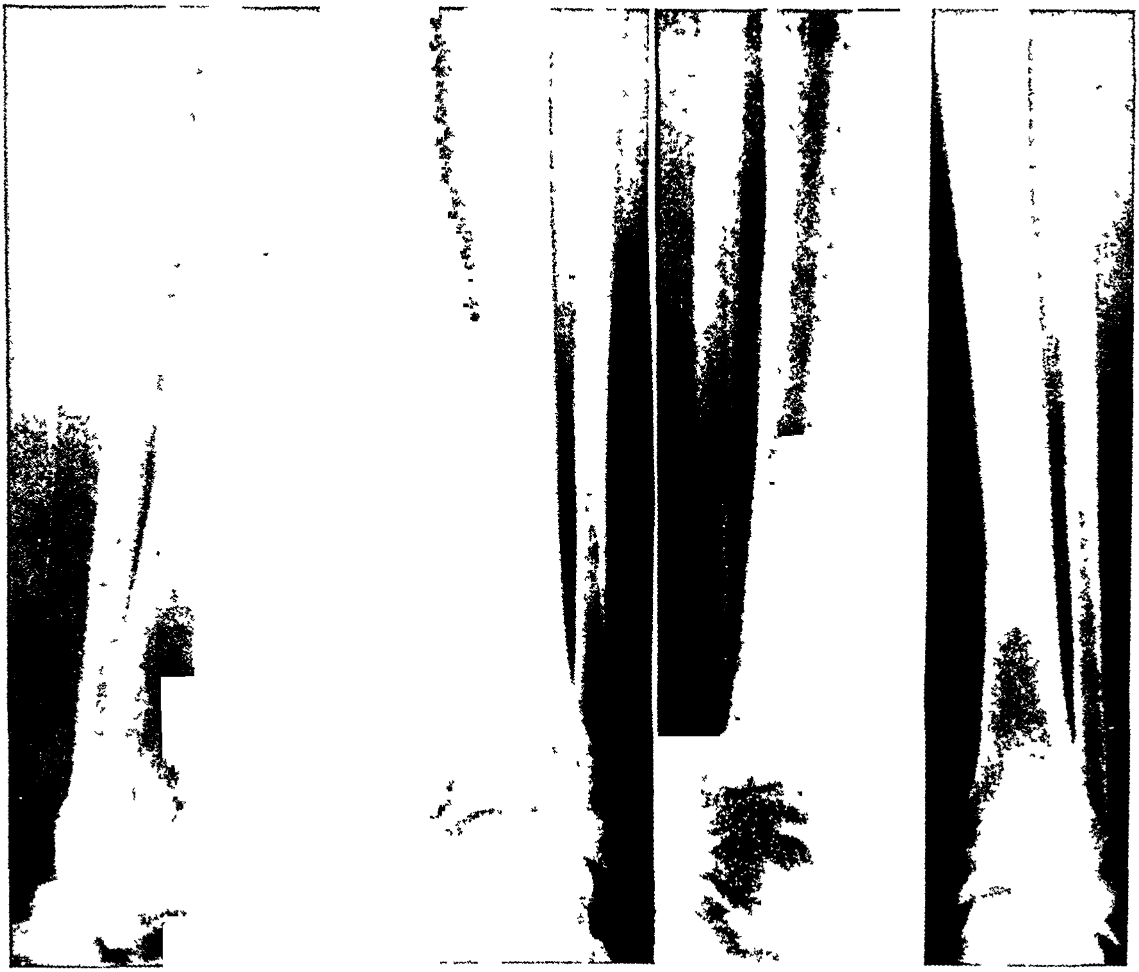


Fig. 5.—Case of an 18-year-old private who had had pain over lower part of tibia for six weeks prior to admission. Roentgenograms, taken two weeks apart, revealed fracture line at site of periosteal elevation and callus formation.

casian, Jewish, Mediterranean and Scandinavian stocks were included in the group.

The occurrence was roughly equal between the right tibia (40 per cent) and the left (46 per cent). There were 3 cases of bilateral stress fracture (14 per cent).* These figures roughly approximate those of Wells in his series. The site of occurrence in the bone has been stated to be related to the stress placed upon the bone. This is highly variable with the individual patient, though the most common site (66 per cent) was between 3 and 5 inches (7.5 and 12.5 cm.) below the knee joint, at the juncture of the proximal and middle thirds of the tibia. Ten per cent were 2 inches (5 cm.) or less below the knee joint, and 14 per cent were below 6 inches (15 cm.) in the middle third. An additional ten per cent were in the distal third.

Symptoms had been present in all patients for at least five days prior to admission, 1 patient having complained for four months. The average duration of symptoms prior to admission was five weeks. This probably reflected the lack of acquaintance of the dispensary medical officers with the fracture. As they became more familiar with it, patients were admitted one or two weeks after the onset of symptoms.

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*Between June 30, 1958 and Sept. 30, 1958, an additional 3 patients with bilateral stress fractures of the tibia were admitted

The history was characteristic in most of the cases. Eight patients (23 per cent) had a history of minimal trauma preceding the fracture. In all, the trauma occurred at least four hours prior to the onset of pain and during a vigorous training exercise. Patients often attempt to relate the onset of pain to some specific injury, so this may actually influence their concepts as to cause and effect. In 77 per cent of cases there was absolutely no history of any traumatic incident. Nearly all had participated in prolonged marches, obstacle courses or organized athletics. Swelling (26 per cent) and limping (10 per cent) were infrequent. The universal symptom, present in every case, was the spontaneous onset of pain over the leg on walking, marching or running. In the early stages the pain would be relieved by rest, whereas later it would occasionally persist after weight had been removed from the leg. The occurrence of night pain in some of the latter cases caused considerable concern on early observation.

The classic physical sign was localized tenderness on pressure over the fracture site. Seventy-five per cent had swelling over the same site, about half presenting a soft tissue swelling and half a hard, firm mass on the tibia. Three had 2 plus and 1 had a 4 plus pitting edema. Six showed a definite increase in heat, and 5 had visible erythema. Only 1 had a marked limp.

films frequently confirmed these data, showing the course of orderly healing.

Several admitting diagnoses differed from the actual diagnosis, which confirms the fact that the differential diagnosis is not easy. Osteomyelitis, Ewing's sarcoma, congenital deformity, osteoid osteoma and thrombophlebitis were some of the various admitting diagnoses. Two patients had been treated for three weeks with anticoagulants for thrombophlebitis before the diagnosis was made. Each had pitting edema, but both had a negative Homan's sign. Tomograms, serial roentgenograms and careful clinical appraisal were utilized in those cases in which bone tumors were suspected. The pain usually subsided rapidly on a non-weight-bearing program. No tumors developed in those whose lesions were diagnosed initially as stress fracture. No generalized reaction, as indicated by elevated white blood cell counts, occurred, nor was there any fever, as might be expected with osteomyelitis.

Detailed laboratory and blood chemical studies were discontinued after a few early cases indicated the fruitlessness of searching for chemical or hormonal imbalance. Diagnosis could be readily made in most cases on the history, physical examination and roentgen examination alone. Routine blood counts, urinalyses, and microthoracic films consistently gave negative results.

sujetos vigorosos y jóvenes, especialmente durante la instrucción militar. La aparición del clásico síntma de dolor sobre la cresta tibial al andar con peso jantamente con sensibilidad a la presión e hichazón debe hacer sospechar esta lesión. La exploración radiográfica identifica la lesión después de dos semanas. El tratamiento consiste en el uso de muletas para descargar el miembro afecto durante seis semanas seguidas de ostras dos de marcha con carga normal y fisioterapia. No hace falta llamar la atención sobre la importancia del diagnóstico de esta fractura con los tumores óseos, la osteomielitis y la tromboflebitis.

RÉSUMÉ

Les fractures d'effort ou de marche du tibia se rencontrent souvent chez des hommes jeunes et vigoureux, surtout à la période d'entraînement des recrues militaires. Le symptôme caractéristique de la douleur du tibia à la station debout, associé à une sensibilité locale à la pression en général accompagnée d'un oedème devraient donner l'éveil au praticien. Les radiographies montrent une lésion restant inchangée 15 jours plus tard. Traitement: béquilles pendant six semaines afin de supprimer le poids du corps sur le membre atteint, puis une ou deux semaines de thérapeutique physique avec tout le poids du corps. L'on ne saurait trop insister sur l'importance de cette lésion dans le diagnostic differérentiel avec des tumeurs osseuses, l'ostéomyélite et la thrombophlébite.

SUMARIO

As fraturas por esforço ou de marcha sobre a tibia são vistas frequentamente em pessoas robustas, adultos jovens e sadios, paryicularmente durante o treinamento dos recrutas.

O sintoma universal da dor durante a pressão e o esforço combinado com o edema deve levantar a suspeita. Depois de duas semanas a radiografia revela a existencia da lesão. O tratamento consiste de um estribo ambulatorio seguido de uma ou duas semanas de fisioterapia e movimentação ativa. A importancia do diagnostico diferencial com os tumores osseos, a osteomielite e a tromboflebite não podem ser esquecida.

RIASSUNTO

Le fratture da sforzo della tibia si osservano spesso in giovani sani e vigorosi, e particolarmente durante il servizio militare. I sintomi sono rappresentati dal dolore sotto carcico, dalla dolorabilità locale alla pressione, dall'edema; l'esame radiologico dimostra la lesione dopo un paio di settimane. La cura consiste nell'uso delle stampelle per 6 settimane, evitando ogni carico sull'arto, e poi una o due settimane di terapie fisica permettendo l'uso completo dell'arto. Non si deve sopravalutare l'importanza di questa lesione nella diagnosi differenziale con i tumori ossei, l'osteomielite e la troboflebite.

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New Concepts in the Treatment of Carcinoma of the Thyroid

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Carcinoma of the thyroid is observed in an increasing percentage of patients operated upon for nodular goiter. Any system of selection that brings these patients to earlier operation can be expected to give increasingly good results. Early operation on children with nodular goiter, men with nontoxic nodular goiter, and all patients with discrete or solitary tumor has been effective in the author's experience. The type and extent of operation should be governed by immediate frozen section of the tissue and determination by the pathologist of the type of growth present. At the University of California School of Medicine in San Francisco, radioactive iodine has proved to be a valuable aid in locating metastases. It has also helped to some extent in the treatment of certain inoperable conditions.

MOST of the modern advances in treatment as well as in diagnosis of diseases of the thyroid are based upon the great affinity of this gland for iodine. Tremendous advances in understanding of the physiologic and pathologic aspects of the thyroid gland have been made since radioactive iodine (I^{131}) has been available for investigative purposes. During the twelve years in which radioiodine has been generally available, thyroid physiologic theories and concepts, previously impossible to demonstrate, have been elucidated. Although radioiodine has not been as successful a therapeutic agent as was predicted, its use as a tool has taught the profession much about the physiologic character of thyroid neoplasms and their hormonal stimuli.

I should like to present a composite view of those at the University of California School of Medicine in San Francisco who are treating carcinoma of the thyroid. I might point out that there is no routine diagnostic or therapeutic procedure to which all patients are subjected. This applies especially to decisions concerning treatment. The treatment decided upon is the one that is considered best for the individual patient by his individual physician. This, of course, is as it should be in the best practice of medicine.

It is generally conceded that carcinoma of the thyroid is primarily a surgical disease. Many do not realize that it is rapidly becoming the most important surgical disease of the thyroid gland, if not the one most frequently encountered. Figure 1 illustrates the trend at the University of

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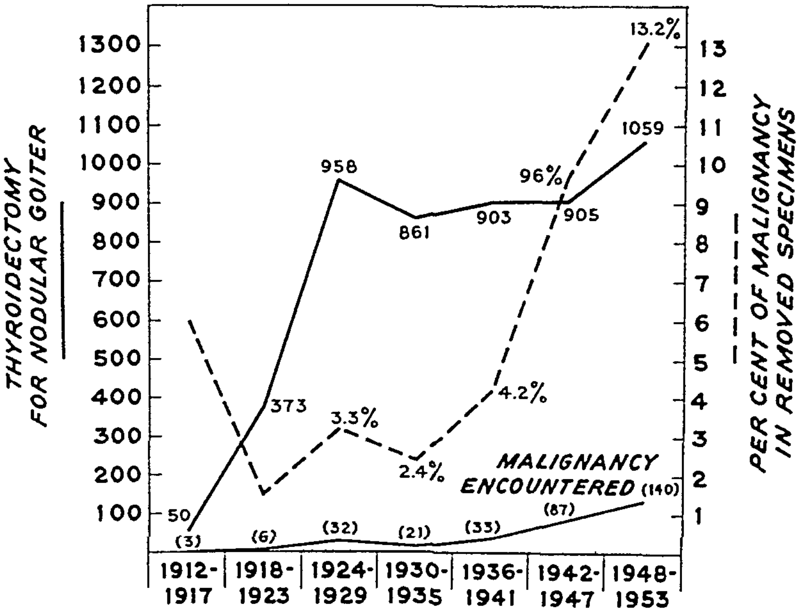
California Hospital from 1912 to 1953. It can be seen that 13.2 per cent of the nodular goiters removed in the last five-year period were malignant.

A similar trend has been noted in other parts of the country. Hayles and his co-workers[1] noted an even greater increase in the percentile incidence of malignancy in the nodular goiters of children, which rose from 4.5 per cent in 1919 to 70 per cent in the 1950s. When one realizes that fewer and fewer patients with diffuse toxic goiter are being subjected to operation, it can readily be seen that carcinoma of the thyroid and the nodular goiter with which it is associated are assuming proportionately greater importance.

In discussing the treatment of this disease it is necessary to dwell somewhat on the diagnosis as well. The earlier a malignant lesion is diagnosed, the more successful will treatment be. From the diagnostic standpoint, the presence of a nodular goiter is important. Almost all carcinomas of the thyroid are nodular. If surgeons can tell from diagnostic procedures which of the nodular goiters are likely to be malignant and then advise surgical removal of these, they will have gone a long way toward solution of the problem of malignant goiter. Varying degrees of thyroid activity, alternating with involutionary changes, have been associated with the causation of non-neoplastic nodules, both clinically and experimentally. The fact that the involutionary type of nodule is most common in the adult female is rightly attributed to the varying physiologic demands for thyroid activity associated with menstruation, childbearing, lactation and the climacteric. The thyroid becomes enlarged or undergoes hypertrophy to meet these demands—enlargement of the thyroid by hypertrophy in an attempt to meet the demand for increased production of thyroid hormone.[2] This type of thyroid enlargement should, and often does, respond to the administration of thyroid substances, or triiodothyronine, by a reduction in size or disappearance of the nodules. This type of enlargement and nodulation is due to pituitary thyroid-stimulating hormones (TSH) and is on a functional and almost physiologic basis. It is a nonsurgical condition.[3] The real diagnostic problem is the differentiation of a thyroid gland that is enlarged on this basis from one that is the site of true neoplasm.

Any thyroid gland that is the site of neoplasm immediately becomes a surgical problem. The real objective of diagnostic studies is the separation of nodular goiters into the involutional, or physiologic, and the neoplastic groups.[4] Hyperthyroidism is rarely associated with malignant tumors; therefore, the diagnostic tests that help to determine the presence or absence of hyperthyroidism also help in the elimination, to a large extent, of the probability of malignant neoplastic disease. It follows, accordingly, that tests for hyperthyroidism, such as determination of the basal metabolic rate and tests for elevated protein-bound iodine and radioactive-iodine uptake, also help to screen patients for the possibility of neoplastic change. Another test that helps in screening is a scanogram of the neck, taken after a test dose of radioactive iodine. By this method it has become possible to pick out the so-called "hot" and "cold" nodules and almost to rule out neoplastic disease in the "hot" nodules.

Like any other laboratory device, the



YEAR	TOTAL	NODULAR GOITER	MALIGNANT	%
1954	190	164	26	13.7
1955	141	127	14	10.0
1956	155	128	27	17.4

Fig. 1.—Incidence of malignancy observed in operations for nodular goiter at the University of California Hospitals, 1912-1956.

of the thyroid are as highly functional as the surrounding, normal thyroid tissue means that a low uptake of I^{131} in the nodule is consistent with, if not indicative of, neoplasm.

In addition to testing for increased or decreased physiologic activity when decreased activity points in the direction of neoplasm, there are other aids, mainly statistical, that help to separate the benign from the malignant nodular goiters.

Analyses at the University of California Medical Center have taught my colleagues and me to suspect the presence of neoplasm in three types of patients with nodular goiter. These are (1) children with nodular goiter; (2) men with nontoxic nodular goiter, and (3) patients of any age of either sex who have solitary or discrete nodules (Fig. 2).

Regardless of the method of selection, a decision must be made at the time of operation as to whether malignancy is present and, if so, as to the extent of the surgical procedure to be carried out. As an aid in this decision and in establishing the final prognosis, malignant neoplasms of the thyroid have been divided into three general groups with different degrees of malignancy, different paths of invasion, different life histories and different prognoses.

The first of these is papillary carcinoma, which tends to spread by lymphatic invasion. The second is alveolar or follicular carcinoma, which tends to spread by vascular and local invasion. The third is anaplastic or undifferentiated carcinoma, which tends to spread by all methods but is particularly infiltrative locally.

To select the correct surgical procedure, it is necessary to have a frozen section made and then to hold an immediate pathologic consultation in order to decide, first, whether malignancy is actually present, and second, the type of malignancy.

There are obvious disagreements throughout the world and on almost every every hospital staff about what the treatment should be once the diagnosis of malignant goiter is established. It seems to me that the basis of this disagreement is whether papillary carcinoma of the thyroid should be considered less malignant than other forms. If one is convinced of this, as I am, there is justification for less radical procedures for this type of carcinoma. If, on the other hand, one is convinced that all carcinomas of the thyroid are equally malignant, there is justification for the stand taken by Hayes Martin,[5] McCorkle[6] and others, that a homolateral neck dissection should accompany each lobectomy for carcinoma of the thyroid.

If all carcinomas of the thyroid are of equal malignancy and spread equally by the same pathways, it would be consistent with Halsted's dictum for carcinoma of the breast to perform bilateral total lobectomy, bilateral radical neck dissection and mediastinal dissection in every case. Obviously such an operation would be in the same class as ultraradical mastectomy, which includes mediastinal and supraclavicular dissections in each case.

I think it is fair to say that the majority of surgeons at the University of California Medical Center are of the opinion that papillary carcinoma is less malignant than other forms. A study of 293 cases of carcinoma of the thyroid made at this institution showed that carcinoma arising total thyroidectomy is indicated when any type of carcinoma is discovered by frozen section. Early in the operation, the observation of a delphian node near the isthmus may give a clue to the extent of operation necessary. If this node is enlarged owing to the presence of carcinoma, the least radical procedure by which one can look forward to a cure is total thyroidectomy.

If the node is not involved and if the tumor is solitary, the operation should consist of a total lobectomy on the affected side. If the tumor is benign, total lobectomy is sufficient. If the pathologist reports papillary adenocarcinoma, a total thyroidectomy should be done and a search should be made for regional involvement of the lymph nodes. If enlarged nodes are present, a neck dissection on the side bearing the tumor should be included in the original operation.

If the pathologist reports alveolar carcinoma, it is sometimes justifiable to perform a total thyroidectomy and to omit the neck dissection. If an anaplastic or undifferentiated carcinoma is present, it is questionable whether performing more than radical removal of the involved area

is justified. For this type of carcinoma, neck dissection is seldom indicated.

Total thyroidectomy is recommended when the pathologist reports the presence of follicular or alveolar carcinoma in the frozen section; this tumor has a pronounced tendency to spread by vascular invasion and to produce distant mestastases. In order that the mestastases may be located and treated with radioactive iodine, all functioning thyroid tissue should be removed surgically from the neck.[8]

Decisions concerning the further treatment of carcinoma are based to a great extent on the type of carcinoma observed on pathologic examination. If the tumor is predominantly papillary and there is a question in the surgeon's mind whether there is unremoved malignant tissue, postoperative external radiation therapy is indicated. Many patients so treated have remained well for many years and have had no local recurrence.

As I pointed out previously, external radiation therapy is not a routine procedure. It is the consensus here that its principal value is in the treatment of the aforementioned type of lesion, and occasionally for the patient who has inoperable deposits in the neck and distant bony metastases, and that there should be no such thing as prophylactic irradiation. Our radiologists are unwilling to expose patients to the very large doses of radiation necessary for a carcinocidal effect unless there is reasonable assurance that viable carcinoma is present.

Treatment of carcinoma of the thyroid with radioactive iodine has been done here on a highly selective basis. The prime requirement, of course, for successful therapy depends upon uptake of radioactive iodine by the malignant tissue in such amounts that it can be therapeutically effective. Function is approximately related to the histologic character of the tumor and has been observed to a high degree most frequently in follicular tumors. Papillary tumors rank next in their affinity for I^{131}; there is little uptake in the undifferentiated anaplastic growths. To increase the function of carcinomatous tissue, removal of all normal thyroid tissue is the first step. If this has not been done by an operative procedure, it can be accomplished by a therapeutic dose of I^{131}.

Administration of exogenous thyroid-stimulating hormones is the second step, and the third is the use of thiouracil derivatives. It should be remembered that the beta radiations from radioiodine have a therapeutic effect through only 2 mm. of tissue. It is necessary, therefore, to get not only a considerable concentration but a fairly uniform distribution of radioiodine into the tissues of the tumor for it to be effective.

Some degree of arrest or regression of the disease was achieved in 11 of 23 radioiodine-treated patients observed from 1938 to 1954.[9] Of these, 4 patients were alive in May 1957. One of them is known to have carcinoma; the others are apparently well. This is not an over-encouraging set of results. An additional 62 patients with residual carcinoma were studied during this time but were not suitable for radioiodine therapy.

There is another therapeutic measure that we believe to have great value, particularly for young patients. It has been our practice to give tolerance doses of thyroid substance to these young persons. This was done empirically many years ago by Sir Thomas Dunhill.[10] In recent years there has been much evidence to suggest that the beneficial effect so obtained is due to suppression of the production of thyroid-stimulating hormones by the pituitary gland. Whether thyroid-stimulating hormones play the same part in promotion and continuation of growth of carcinoma as in the production of thyroid hormone has yet to be demonstrated. Certainly the recent studies of Thomas,[11] in which triiodothyronine was used in cases of far advanced malignancy, lends encouragement to this point of view, as showing that not all carcinomas are dependent on these hormones. In some cases observed here, suppression of thyroid-stimulating hormones has been of undoubted benefit.

SUMMARY

Carcinoma of the thyroid is being observed in an increasing percentage of patients operated upon for nodular goiter. Any system of selection that brings these patients to earlier operation can be expected to give increasingly good results. Early operation on children with nodular goiter, men with nontoxic nodular goiter, and all patients with discrete or solitary tumor has been effective in the author's experience. Finally, the type and extent of operation should be governed by immediate frozen section of the tissue and determination by the pathologist of the type of growth present. For papillary carcinoma, a total thyroidectomy and homolateral neck dissection are recommended. For alveolar carcinoma, total thyroidectomy is recommended. For anaplastic carcinoma, radical local resection is the treatment of choice. In certain cases, especially those in which the growth is predominantly papillary, external irradiation is recommended.

The author has found radioactive iodine a valuable instrument for locating metastatic deposits and of some help in treating certain inoperable conditions.

bile è destinato a migliorare i risultati finali. Secondo l'esperienza dell'autore si dimostra efficace qualunque intervento eseguito precocemente su bambini con gozzo nodulare, su adulti con gozzo nodulare non tossico e su qualunque paziente con gozzo di modeste proporzioni o solitario. Il tipo e la estensione de dare all'intervento dovrà essere stabilito da un esame istologico eseguito immediatamente al congelatore; nel carcinoma papillifero si dovrà eseguire la tiroidectomia totale con dissezione omolaterale del collo; nel carcinoma alveolare la tiroidectomia totale; nel carcinoma alveolare la tiroidectomie totale; nel carcinoma anaplastico la resezione locale radicale. In certi casi, specie in quelli in cui il tumore è prevalentemente papillifero, si raccomanda l'irradiazione.

L'autore ritiene che l'uso dello jodio radioattivo sia molto utile per localizzare le metastasi e in qualche caso possa giovare nella terapia delle forme inoperabili.

RÉSUMÉ

La carcinome de la thyroïde se rencontre dans un pourcentage croissant de cas opérés de goitre nodulaire. Toute méthode de sélection amenant ces malades à une opération plus précoce peut donner des résultats de plus en plus satisfaisants. L'auteur a constaté que l'opération précoce était efficace chez les enfants atteints de goitre nodulaire, chez les adultes à goitre nodulaire non toxique, et chez tous les malades à tumeur discrète ou solitaire. Enfin, le type et l'étendue de l'opération devraient être dictés par une coupe à la congélation extemporanée soumise immé-

certains cas, en particulier quand la tumeur est à prédominance papillaire, une irradiation externe est conseillée.

L'auteur estime que l'iode radio-actif est une aide précieuse pour la localisation de formations métastatiques, et d'un certain secours dans le traitement de certains cas inopérables.

ZUSAMMENFASSUNG

Bei Patienten, die wegen eines knotigen Kropfes operiert werden, wird ein Schilddrüsenkrebs in ständig wachsendem Prozentsatz beobachtet. Jedes System der Auswahl, das zu einer frühzeitigeren Operation dieser Kranken führt, kann erwartungsgemäss zu einer zunehmenden Verbesserung der Resultate führen. In der Erfahrung des Verfassers hat sich der frühzeitige chirurgische Eingriff bei Kindern mit knotigem Kropf, bei Männern mit nichttoxischem knotigem Kropf und bei allen Kranken mit umschriebenen oder solitären Geschwülstein als wirksam erwiesen. *Die Art und Ausdehnung* des Eingriffes sollte von den Ergebnissen eines sofortigen Gefrierschnittes des Gewebes und von der Klassifizierung der vorliegenden Geschwülst durch den Pathologen abhängig gemacht werden. Für Fälle von papillärem Krebs wird die To*talresektion der Schilddrüse mit* Resektion der Halsweichteile der erkrankten Seite, für Fälle von alveolärem Krebs die totale Schilddrüsenresektion empfohlen. Beim *anaplastischen* Krebs *ist eine radikale* örtliche Resektion das Verfahren der Wahl. In gewissen Fällen, besonders wenn es sich um eine vorwiegend papilläre Geschwulst handelt, wird externe Bestrahlung empfohlen.

Das radioaktive Jod hat sich dem Verfasser zur Lokalisierung von Metastasen und in der Behandliung gewisser inoperabler Fälle als wertvoll erwiesen.

SUMARIO

A incidencia de carcinoma da tireóide vem sendo observada em maior porcentagem de doentes operados por bocio nodular. Qualquer sistema que leve essas pessoas a operação precoce fornece melhores resultados Nas criançãs com bocio nodular, nos adultos com bocio nodular atoxico ou em qualquer caso de tumor discreto ou isolado, a operação precoce tem sido grata ao A. O tipo e extensão da operação devem ser orien tados pela biopsia e histopatologia. Nos carcinomas papilares a tireoidectomia total com dissecção cervical homolateral são aconselhadas. No carcinoma alveolar a resecção radical é o tratamento de escolha. Recomendam a irradiação nos casos em que a neoformação é predominantemente papilar. Considera o iodo radioativo muito útil para localização de depositos metastaticos e de algum auxiliono tratamento de certas formas inoperaveis.

RESUMEN

Entre los enfermos operados de bocio nodular la confirmación de que se trata de un carcinoma tiroideo resulta aparecer en un porcentaje creciente. Se obtendrán resultados tanto mejores cuando se dé con la forma de que dichos enfermos acudan a la cirurgía lo antes posible. De acuerdo con la experiencia del autor se han mostrado altamente eficaces las operaciones precoces en niños con bocio nodular, en adultos con adenoma nodular no tóxico y en todos los enfermos con nódulo discreto solitario. La operación debe completarse siempre con el estudio inmediato microscópico *de la pieza por congelación.* En el caso de carcinoma papilar debe practicarse la tiroidectomía radical con disección bilateral del cuello. En el caso de carcinoma anaplástico el tratamiento de elección es la resección local radical. En el caso de

carcinoma alveolar se recomienda la tiroidectomía total. En cietos casos, especialmente si el tumor es predominantemente papilar se recomienda la radiación externa. El autor considera el yodo radioactivo como excelente para localizar las metástasis y útil en el tratamiento de algunos casos inoperabels.

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I would stress the value and importance, under certain conditions, of delay in diagnosis, or, to make my meaning more clear, delay in applying a label. We must, for the sake of our souls, diagnose every case which we have had the opportunity to examine conscientiously. Such a diagnosis may be provisional, that is, we believe it to be as near the truth as the facts at our disposal will allow, but it must be a definite one in our minds, and not one of many alternatives. It is better to be certain than to be right, for men may rise on stepping stones of their dead diagnoses to higher things, but from the complacent swamp of vague alternatives no ascent is possible. On the other hand a diagnostic label, once applied to a case, is apt to stick to it permanently, to bias all further investigations concerning it, and to govern its treatment.

Osler

Section en Francais

Les Complications Urinaires de l'Operation de Meigs

(Urinary Complications of the Meigs Operation)

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NOUS avons réalisé une quarantaine de *curages cellulo-lymphatiques associés le plus souvent à une hystérectomie élargie de Wertheim.* La technique que nous avons suivie s'inspire directement de l'opération de Meigs.

Mais *chaque fois, nous l'avons fait précéder d'une curiethérapie* effectuée quelques mois auparavant et parfois suivie de radiothérapie complémentaire.

Dans le décours immédiat ou plus ou moins tardivement après l'opération, nous avons observé des *complications urinaires, tantôt bénignes, tantôt sérieuses* ayant nécessité des opération ultérieures:

2 sutures primitives de l'uretère (l'une guérie d'emblée, l'autre après plastie urétérale).

1 opération de Coffey dans un mauvais cas, trop avancé, et qui s'est mal terminée.

2 néphrectomies, une suivie de guérison, une ayant précédé de peu la généralisation.

2 opérations de plastie avec lambeau vésical selon la technique de Boari pour fistule sténose, suivies de guérison.

Nous classons ces observations de la façon suivante.

4 *complications mineures ou bénignes:*

Complications referable to the urinary tract and associated with Meigs' operation are classified as minor and serious, and examples of each are cited. Among the minor complications are cystitis and pyelonephritis; among the major ones, accidental section of the ureter, fistula, stenosis and radionecrosis. It is not attempted to describe in detail the curative treatment of all serious complications in this field, but the authors wish to mention the value of Boari's procedure, which enables the surgeon to ward off infection and sclerosis and enables him to perform a ureteral plasty easily and efficiently with the aid of a vesical flap. They have achieved success with this procedure in the 3 cases in which they have employed it and recommend that it be performed, if possible, at an early stage, when no distention and no old renal infection exists to complicate it.

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cystites, pyélonéphrites sans dilatation ou avec légère dilatation transitoire.

9 *complication sérieuses* parmi lesquelles:

- 2 *évitables, dûes à une faute opératoire* (section accidentelle de l'uretère).
- 3 *complications de radionécrose tardive* et qui empruntent leur gravité au fait qu'elles ne sont que la première manifestation de la récidive précédant de peu la généralisation.
- 4 *complications* de fistules ou sténoses relativement précoces qui posent véritablement le problème de la pathogénie et de la prophylaxie et qui sont de beaucoup les plus intéressantes.

I—COMPLICATIONS MINEURES OU BÉNIGNES (4 CAS)

Ce sont des troubles fonctionnels légers, liés à une dyskinésie passagère associée à une infection rapidement guérie *s'il n'y a pas de cause anatomique* pour l'entretenir.

Observation 34: Mme B. . . , 33 ans, au 9^e jour après l'opération de Meigs, douleurs au niveau du rein droit. Pas de signes urinaires, urographie normale contrôlée quelques mois après.

Observation 26: Mme P. . . , 41 ans, poussées de colibacillose dans les suites opératoires immédiates. L'urographie est normale et restera normale à la vérification ultérieure.

Observation 23: Mme P. . . , 33 ans, poussée de pyélo néphrite au moment où la malade allait quitter le Service, 20 jours après l'opération. Elle avait déjà fait une colibacillose au cours d'une grossesse antérieure. Pas de dilatation des cavités pyélo calicielles à la radiographie.

[illegible] incontinence légère à l'effort et douleurs dans la fosse lombaire droite.

Urographie: Légère distension du bassinet droit et présence d'un petit siphon urétéral Traitement par antibiotiques.

Quelques mois après les cavités ont repris leur volume normal, mais l'infection à colibacilles persiste. Instillations vésicales et lavages du bassinet. Amélioration en cours.

II—COMPLICATIONS MAJEURES OU SÉRIEUSES (9 CAS)

I°) Mettons d'abord à part deux cas que nous considérons comme des *complications évitables: il s'agit de deux sections accidentelles de l'uretère par faute opératoire.*

Observation 32: Mme E. . . , 44 ans, section basse de l'uretère gauche à 6 cm de la vessie en fendant le péritoine de la pointe des ciseaux de Mayo d'une façon trop assurée dans un cas où le radium l'avait épaissi et intimement collé dans la profondeur.

Suture en fin d'opération sur tube de polythène.

Fistule au 16^e jour et distension pyélocalicielle secondaire.

Opération de plastie avec lambeau vésical selon Boari trois mois et demi après.

Guérison de la fistule.

Regression progressive de la dilatation qui a presque disparu cinq mois après.

Observation 33: Mme G. . . , 46 ans, section accidentelle haute de l'uretère droit au croisement des vaisseaux iliaques primitifs par suite de mauvaise visibilité dans un bassin profond et étroit chez une malade saignant beaucoup par troubles de la crase sanguine. Suture en fin d'intervention sur tube de polythène dans les mêmes conditions que précédemment. Cicatrisation sans fistule.

deux blessures de l'uretère suivant le niveau. *La zone critique pour la vitalité de l'uretère est bien celle de l'uretère paramétrial.*

Ces deux sections urétérales sont survenues non pas au début de notre expérience mais après plus de 30 opérations.

Nous pensons cependant les éviter dorénavant:

1°) en prenant plus de précautions dans la dissection du péritoine toujours accollé à l'uretère, mais parfois intimement lié à lui par la réaction fibreuse.

2°) en repérant les uretères d'emblée par un fil de catgut dès les premiers temps de l'opération.

2°) Voici maintenant *trois cas de radionécrose tardive que ont été les premiers signes d'une récidive locale avant généralisation:*

Observation 13: Mme I. . . , 29 ans, deux ans et 9 mois après l'opération de Meigs se plaint de troubles vésicaux. A la cystoscopie on trouve une petite ulcération qui est interprê tée d'abord comme une radio nécrose tardive car l'état général de la malade est parfait.

Maleureusement apparait bientôt un oedème du membre inférieur et de la région sus pubienne.

4 mois après, amaigrissement et hémoptysie. Les métastases pulmonaires se précisent, bientôt suives de métastases hépatiques, puis cérébrales qui emportent la malade I an après le début des troubles.

Observation 11: Mme E. . . , 43 ans, fistule vésico vaginale survenue *trois mois après* une opération de Meigs dans un cas extrémement avancé (basofilie cellulaire au stade III). La dissection des paramètres avait eu lieu en pleins tissus suspects. On eut dû faire une totale et non un Meigs dans ce cas.

Le vagin n'avait pas cicatrisé et etait resté bourgeonnant et sanieux.

Opération: Implantation des uretères dans la sigmoïde selon la technique de Coffey. Poussées d'infection et d'hyper azotémie. Décés 2 ans après en pleine généralisation.

Observation 0: Mme V. . . , 43 ans. Deux mois après une opération de Wertheim sans lymphadénectomie, apparition de fièvre, de frissons et d'anorexie puis fistule urétéro vaginale droite.

Le fond du vagin est sphacélique.

Poussées infectieuses avec gros rein dont la valeur fonctionnelle devient très précaire Néphrectomie.

Un an environ après, signes de récidive et de généralisation. Décés.

Ces trois observations sont sans grand intérêt au point de vue de la discussion pathogénique. Comme d'habitude c'est une association de radio nécrose et de récidive qui est à l'origine des lésions.

La chirurgie ne saurait être mise en cause, étant donnée l'apparition tardive des complications.

3°) Les 4 observations suivantes ont *trait à des sténoses ou à des fistules urétérales plus ou moins précoces, isolées ou associées.*

Nous les considérons jusqu'ici comme *inévitables.* Ce sont elles dont nous voudrions connaître la pathogénie exacte pour arriver à une utile prophylaxie.

A STÉNOSES ISOLÉES SANS FISTULE:

Sténose précoce avec hydro-néphrose infectée bilatérale, guérison médicale.

Observation 35: Mme C. . . , 45 ans, phlébite post opératoire au 7° jour de l'opération de Meigs traitée par Héparine et Tromexane. Le lendemain, lipothymie, hémorragie vaginale profuse. Gonflement et tension des fosses iliaques, surtout de la gauche: *hématome probable dans l'espace pelvien cloisonné par l'opération.*

Les jours suivants, fièvre, urines troubles, puis crises douloureuses lombaires droites. Petite réaction pyélique droite. Sonde à demeure, Cortancyl, antibiotiques.

I mois ½ après, l'hydro-néphrose droite a beaucoup regressé; il persiste une légère hydro-néphrose gauche.

On saisit ici sur le vif le *rôle de l'épanchement lympho-hématique infecté post opératoire entourant l'uretère,* sur lequel on n'a pas jusqu'ici suffisamment à notre avis attiré l'attention.

Sténose tardive avec exclusion du rein, nécessitant la néphrectomie.

Observation 19: Mme L. . . , 32 ans, *le radium a donné une réaction extrêmement vive* avec colpite très suintante qui a ob-obligé à retarder d'un mois l'intervention.

Au cours de l'opération de Meigs, la malade n'a pas saigné de façon notable. Elle a quitté l'Hopital en bon état vers le 20° jour.

Mais quelques semaines après, pyélonéphrite droite traitée par son médecin de façon banale. Revient deux mois après l'opération avec un gros rein droit distendu, douloureux, infecté, dont l'élimination est nulle. Elle refuse toute intervention et se soigne médicalement. Revient au bout de deux mois sans infection ni douleur, mais avec un rein droit exclu qui n'est pas visible à l'uro-sélectan.

L'opération montre un uretère dilaté de la dimension du pouce. Au point de croisement des vaisseaux il se rétrécit et se *transforme en un cordon scléreux,* plein, sans lumiére. Sa muqueuse a disparu. Il est soudé aux parois pelviennes par une gangue fibreuse et comme cartilagineuse par places, indissécable. Les lésions augmentent à mesure qu'on se rapproche de la corne vésicale. Urétérostomie cutanée: le rein ne concentre plus et doit être considéré comme perdu. Néphrectomie. Guérison.

Ici *l'hématome post opératoire* a pu jouer un rôle, mais non évident.

Il faut surtout pour expliquer la transformation de l'uretère en un cordon plein, faire intervenir *l'infection urétérale et péri urétérale,* et surtout *la nécrose partielle de l'uretère aboutissant à la destruction de la muqueuse et à la sclérose des parois.*

B STÉNOSES AVEC FISTULE:

Voici maintenant deux observations où se trouvaient associées à la fois *une sténose et une fistule précoce,* guéries par une opération de Boari.

Observation 37: Mme D. . . , 48 ans. Hémogénique fruste. A beaucoup saigné pendant son opération de Meigs. Le 9° jour, elle souffre un peu du rein droit. Urographie systématique: il existe déjà une nette hydro-néphrose. Cathétérisme urétéral; la sonde bute à 4 cm: cortisone et antibiotiques. Le 15° jour, émission d'urines sanglantes par le vagin. L'écoulement se tarit les jours suivants.

Le 25° jour, la température monte à 39°, puis 40. On opère aussitôt: l'uretère est extrêmement épaissi et sténosé dans un foyer inflammatoire hématique à odeur fétide, situé près de la corne vésicale: opération de Boari (plastie avec lambeau vésical). *Suites fébriles pendant quelques* jours, puis guérison. Disparition progressive de l'hydro néphrose.

Le mécanisme de cette complication a associé vraisemblablement: l'hématome infecté chez cette hémogénique fruste et la dévitalisation de l'uretère déjà altéré par les radiations.

Observation 28: Mme B. . . , 43 ans, avait également un sang poisseux et coagulant mal, elle a beaucoup saigné pendant son opération de Meigs. Les suites furent d'abord orageuses: syndrome choleriforme, obligeant à suspendre les antibiotiques. Nécessité de transfusions répétées. Le 9° jour, fièvre. Le 13°, écoulement d'urines par le vagin. Hydronéphrose droite déjà marquée et légère distension à gauche. *La cystoscopie montre des urines purulentes venant par l'orifice urétéral droit.* La sonde bute à I cm ½ sur un obstacle infranchissable.

Réintervention I mois après l'intervention de Meigs. L'uretère dilaté de 1 cm de diamètre s'engage au niveau du croisement des vaisseaux iliaques primitifs dans un défilé fibreux. On voit sourdre quelques gouttes d'urines purulentes. Opération de Boari, guérison. 5 mois après les cavités rénales sont redevenues sensiblement normales.

Cette observation est du même type que la précédente mais la fistule a été encore plus précoce et *l'élément obstructif, bien que présent, est passé au second plan* L'opération de Boari a également guéri la malade. Il faut noter *l'intérêt de cette intervention précoce* qui a trouvé des lésions jeunes beaucoup plus facilement curables.

ETIOLOGIE

Fréquence:

Nous avons observé 9 complications sérieuses sur 39 cas, soit 23 p. 100. Notre pourcentage s'inscrit en place intermédiaire entre la belle statistique de Meigs 473 cas avec 10,9 p. 100, celle de Popovici—(de Bucarest) 31 cas avec 29 p. 100 de complications urinaires sérieuses, et celle de Martin, Pasquier et Campbell: 30 p. 100.

Par rapport au stade du néoplasme:

Les complications bénignes sont toutes survenues dans des stades de début. Les complications sérieuses sont par contre beaucoup plus fréquentes dans les stades avancés comme le montre le tableau suivant:

	Stade I (17 cas)	Stade II (13 cas)	Stade III (9 cas)
4 complications bénignes	2	2	0
	(11%)	(14%)	
9 complications sérieuses	2	3	4
	(22%)	(33%)	(44%)

Conditions du traitement radiothérapique préalable:

Nous avons dans tous ces cas fait dans le premier temps une curiethérapie classique à façon de Regaud: 5 tubes de bromure de radium de 10 mgr répartis dans la cavité cervico-utérine et dans les culs de sac, soigneusement maintenus par un colpostat spécial de Wangermez, pendant 7 jours consécutifs. Un méchage soigneux bourre le vagin pour éloigner vessie et rectum.

Dans certains cas une radiothérapie complémentaire a été faite avant l'opération (30 à 40 séances). Cette radiothérapie n'a coïncidé qu'une seule fois sur nos huit observations avec une complication urinaire sérieuse. *On ne saurait donc mettre en cause ce complément radiothérapique à l'origine des troubles observés.*

Rôle du delai écoulé entre l'application de radium et l'opération chirurgicale de Meigs:

Ce délai que nous tendons à raccourcir maintenant et à porter à 1 mois ½ ou 2 mois, a parfois varié suivant des circonstances diverses avec comme date extréme 1 mois ½ ou 7 mois. Il ne nous a pas semblé que la variation de ce délai ait eu une influence sur les complications urinaires.

Voici le tableau que nous avons dressé en supprimant évidemment les deux cas de blessure accidentelle de l'uretère qui n'ont aucune raison d'y figurer:

Délais pour les complications bénignes	3 mois 3 mois 3 mois 3 mois
Délais pour les complications malignes	4 mois 4 mois 3 mois ½ 2 mois ¾ 3 mois ½ 2 mois 3 mois ½

Conditions du traitement chirurgical:

Le premier geste opératoire au cours de la laparotomie doit être l'exploration manuelle des paramètres. La première condition en effet pour pouvoir faire une dissection correcte est de les trouver souples ou tout au moins assouplis par la curiethérapie de façon secondaire.

Plutôt que de faire une dissection dangereuse et inutile, mieux vaut en effet si les paramètres sont indurés, faire une simple hystérectomie totale et même si l'utérus est absolument fixé et bloqué, une simple annexectomie en associant toujours bien entendu le curage cellulo-lymphatique.

Celui-ci n'est d'ailleurs pas possible dans tous les cas.

Sur 39 cas, nous avons dû reculer une fois dans un hémi-bassin gauche: le curage du côte droit avait été parfaitement possible, à gauche au contraire, il existait une induration cartilagineuse et un péritoine absolument collé, indissécable dans la profondeur. Cette malade qui avait eu un radium très longtemps avant (7 mois) avait fait aussi une pyélo urétérite gauche et l'action de cette inflammation s'était surajoutée à celle du radium pour déterminer les lésions constatées.

Voici le tableau indiquant dans nos 39 observations la technique qui fut suivie au point de vue opératoire.

Il faut noter que tous les cas de complications urinaires se sont montrés après opération de Meigs, sauf un seul après opération de Wertheim.

Nombre total d'opérations: 39		Complications urinaires
Opération de Meigs (Wertheim + lymphadénectomie)	31 cas	4 + 9
Opération de Meigs incomplète (unilatérale)	1 cas	0
Opération de Wertheim sans lymphadénectomie	1 cas	0
Hystérectomie totale + lymphadénectomie	4 cas	0
Annexectomie bilatérale + lymphadénectomie	2 cas	0

dissection des uretères que le curage cellulo-lymphatique qui peut jouer un rôle dans l'apparition de ces complications.

Technique opératoire:

Nous sommes arrivés à une technique très voisine de celle de Brenier (de Grenoble) et dérivée également de la technique initials de Meigs. Au cours de l'intervention les uretères sont disséqués sur toute leur étendue pelvienne.

Nous ne conservons pas de languette péritonéale à leur surface. Celà nous a paru inutile car la vascularisation apportée par le péritoine est insignifiante et nous préféons faire l'ablation de tout le péritoine pelvien à la façon de Brunswick.

Nous ne conservons pas non plus la petite artère que Meigs conseille de garder, venant de l'hypogastrique aussitôt après le croisement des vaisseaux. C'est difficile et ce n'est pas dans cet endroit que l'uretère risque d'être dévitalisé.

Le *point critique pour la vitalité urétérale est la traversée du paramètre latéral* La dissection doit passer au ras de l'uretère pour enlever au maximum le tissu cellulaire suspect. A ce niveau, il y a une série de petits vaisseaux courts qui viennent de l'utérine et qu'on sectionne et lie très près de l'uretère.

opératoires, l'uretère est privé d'une grande partie de sa vascularisation à ce niveau.

Nous conservons cependant l'artère ombilico-vésicale et nous ne faisons jamais la ligature préventive de l'hypogastrique ou du tronc pelvien de celle-ci.

Le *drainage* du pelvis cruenté est un problème difficile à résoudre. Il est cependant essentiel pour éviter l'hématome infecté entourant les uretères dénudés. Laisser le vagin béant ne suffit pas. Nous essayons actuellement le drainage avec aspiration.

Il y a aussi des *circonstances anatomiques* qui favorisent la complication. *Certaines malades ont des uretères flasques et* qui pendent verticalement de la corne vésicale. D'autres, ont un uretère tendu qui s'éloigne de la paroi et on se demande comment se comblera ce vaste intervalle cruenté qui l'entoure.

Enfin, nous avons été frappés par le fait que *toutes les complications majeures ont siégé du côté droit.* Or il est certain que le côte droit est beaucoup plus large que le gauche et que l'uretère après dissection s'y trouve beaucoup plus éloigné de la paroi que du côté opposé.

CONCLUSIONS PATHOGENIQUES

1°) *Pour les complications bénignes:* dilatations pyélo-urétérales passagères, hydro-néphroses réversibles, on peut supposer une action reflexe ou un trouble de l'innervation à l'origine de cette "dyskinésie."

Mais à partir du moment où la dilatation devient *durable quoique réversible*, il peut s'associer un élément mécanique de compression urétérale par péri-urétérite (oedème des parois, compression par un hématome se résorbant progressivement et sans séquelles).

2°) *Pour les complications sérieuses:* Deux éléments pathogéniques sont mis en valeur par les différentes observations: la *péri-urétérite* et la *nécrose de l'uretére.*

I *La péri urétérite:*

a) En premier lieu, ce sont les radiations qui la déterminent. Tous les auteurs ont observé comme nous, ce *bassin "gelé"* (Dargent), cette "carapace," ce "blindage" (Cibert), cette gangue scléreuse et presque cartilagineuse qui noie l'uretère, fait adhérer le péritoine à un tissu cellulaire densifié, au point que tout dissection, tout clivage, sont impossibles.

b) Mais nous avons mis en lumière dans notre observation 35, *le rôle de l'hématome infecté* dans lequel baigne l'uretère et qui secondairement se densifie, *se sclérose à son tour.*

c) Insistons aussi sur une *troisième cause, infectieuse, l'urétéro pyélite à colibacilles.* Son action est très nette dans notre observation 30, où seul le côté qui fut atteint de pyélo urétérite présentait des lésions de bassin "gelé" indissécable.

II *La nécrose de l'uretère:*

a) L'existence de complications urinaires de même type, presque aussi fréquente dans la pratique des chirurgiens qui font d'emblée la cure chirurgicale sans radium préalable (Prof. Roux de Montpellier) affirme la *responsabilité de l'acte chirurgical dans cette nécrose par ischémie.*

b) *L'action propre du radium* est également des plus nettement prouvées (cas de fistules consécutives à des curiethérapies isolées (Leger). La sommation des deux causes de dévitalisation pourra aboutir à *un processus nécrotique et sténosant à marche rapide:* il semble s'annoncer dès le 4° ou 5° jour par la sténose (peut être gonflement oedémateux de l'uretère?), la douleur du rein, la distension légère du bassinet. Puis entre le 9° et le 15° jour, apparait la fistule, tandis que se précise la sténose associée (obs. 28 et 37).

Dans d'autres cas, la *nécrose est plus* *légère et aboutit à la destruction de la muqueuse et à l'oblitération de l'uretère, remplacé par un cordon scléreux* (obs. 19). Ce sont les *processus progressifs, sténosants, à marche lente* pour lesquels s'associe vraisemblablement le rôle de la péri urétérite.

c) Reste enfin *l'envahissement par la récidive néoplasique* de ces tissus en partie dévitalisés. Dans les radio-nécroses tardives, il est difficile de démêler le rôle de la récidive qui est intimement associée dans bien des cas, comme dans nos trois observations (Obs. 13, 11 et 0)

Il est vraisemblable que les deux éléments: *péri-urétérite* (prise dans son sens le plus général) et *nécrose de l'uretère,* s'associent toujours plus ou moins.

Mais dans les sténoses isolées, la péri-urétérite est prédominante et la nécrose absente ou modérée.

Dans les fistules au contraire, les deux sont associées avec prédominance nette de la nécrose.

CONCLUSIONS PROPHYLACTIQUES

Notre conclusion sur la prophylaxis sera brève.

Devant un mal aussi grave que le cancer du col, nous continuons d'associer le radium et la chirurgie, malgré leur action nécrosante commune sur les uretères.

Nous n'avons pas de procédé qui *puisse protéger l'uretère contre les radiations* tout en laissant le tissu qui l'entoure exposé à la destruction.

Les précautions techniques que nous avons citées ne permettent pas d'éviter *l'écluse opératoire* dans la zone critique paramétriale.

Ce n'est pas non plus le *délai entre le temps physiothérapique et le temps chirurgical* qui peut avoir une grande importance pathogénique.

Mais deux possibilités d'amélioration nous semblent ouvertes cependant:

1°) Une *amélioration du drainage pelvien supprimant le lympho-hématome infecté,* qui à notre avis joue un rôle important dans la péri-urétérite, et une *antibiothérapie élective* et portée in situ dans le foyer opératoire sus vaginal.

2°) *La prophylaxie de l'infection urétérale* de la pyélo-urétérite, dont nous avons montré l'action néfaste d'où:

   a) *Surveillance du transit urinaire,* comme le conseille Dargent. Nous préconisons une urographie systématique le 5° jour à la période du début des complications possibles et une le 20° jour avant la sortie de la malade.

   b) *Surveillance aussi de l'infection urinaire* par des analyses répétées et *mise en oeuvre précoce du traitement médical.*

   Mais l'antibiothérapie même élective (après antibiogramme) ne suffit pas: Il faut lutter d'emblée contre la rétention par la *mise à demeure précoce* d'une sonde urétérale.

C'est au prix de ces quelques précautions supplémentaires que nous espérons arriver à diminuer à l'avenir le pourcentage encore lourd de ces complications que nous jugeons jusqu'ici "inévitable."

RÉSUMÉ

Soulignons cependant la valeur de l'excellent procédé de Boari, qui permet de se tenir à distance du foyer d'infection et de sclérose et de réaliser aisément une plastie urétérale à l'aide d'un lambeau vésical.

Il a procuré la guérison dans les trois cas où nous l'avons appliqué, et nous en recommandons l'emploi précoce dès que la lésion est constituée, sans attendre la distension et l'infection rénales invétérées.

The Tooth-Drawer, by Jan Steen. The tooth-drawer is gleefully holding aloft the enormous molar he has extracted from the jaw of the bound, howling patient. He has gathered the crowd of villagers around him by playing the violin hanging in the right-hand corner. The patients have brought eggs and produce in payment of his fees. The sufferer in the foreground has evidently been imbibing in an effort to summon up courage for the ordeal. (*Reproduced by courtesy of the Rijksmuseum, Amsterdam, The Netherlands.*)

—Hamilton Bailey, F.R.C.S. (Eng.), F.A.C.S., F.R.S. (Edin.), F.I.C.S. (Hon.)

Seccion en Español

Terapéutica Quirúrgica de la Retinosis Gravídica

(Surgical Treatment of Severe Retinosis)

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Mentioning the direct and indirect relations that may exist between disease of the eye and other pathologic conditions, which may be referable to infection, glandular conditions, cardiovascular disease, conditions affecting the respiratory or the genitourinary system, metabolism, etc., the author proceeds to discuss severe retinosis, its treatment by surgical intervention and the results that can be expected.

A PASO y medida que la Medicina General ha ido progresando, las especialidades médicas, y en el caso particular, la Oftalmología, ha tomando más interés para el clinico general y el cirujano, pues cada vez existe más íntima relación entre accidentes generales de distintas disciplinas, y las manifestaciones locales, o focales en el ojo de muy diversos padecimientos.

De sobra conocidas son las relaciones existentes entre la Oftalmología y las enfermedades infecciosas, las del sistema circulatorio, las de la sangre, las del aparato respiratorio y urinario, los padecimientos de las glándulas endócrinas, las enfermedades metabólicas (diabetes, gota, obesidad, etc.,), los síntomas carenciales de avitaminosis, las afecciones del aparato locomotor (reumatismo, etc.), los padecimientos del sistema nervioso, (especialmente tabes y tumores cerebrales), la pediatria, las alergias, las afecciones dermatológicas, las otorinolaringológicas, las psicosomáticas (glaucoma), y en último término, pues vamos a referirnos a una de ellas, las ginecopátias.

En trabajo anterior del suscrito, hicimos referencia a las "Complicaciones Oculares del Embarazo," procurando una relación ordenada y suscinto de los distintos accidentes, que durante este acto fisiológico, y transitorio del organismo femenino, se presentan a través del embarazo y del puerperio.

En el trabajo mencionado, procuramos poner en cierto orden útil, las complicaciones oculares del embarazo, mencionando los edemas, blefaritis, alteraciones cutáneas, accidentes conjuntivales, accidentes subjetivos, avitaminosis, trastornos glandulares, intoxicaciones (especialmente por tabaco y alcohol) y al final nos referimos.

Es por ésta complicación del embarazo, que debiera establecerse, para prevenirla, o por lo menos para hacer un diagnóstico precoz, que a no dudarlo se obtiene siempre por el examen oftalmoscópico, antes de las manifestaciones ostensibles del estado general, la tendencia del examen sistemático del fondo del ojo desde el primer trimestre del embarazo, como una medida de rutina en toda mujer en gestación, aunque ésta siga un curso normal, pues se obtendría, para los ginecoobtetras, a travé del examen periódico del oftalmólogo, una información totalmente útil para el tratamiento oportuno de la toxemia gravídica.

Aclaremos, antes de hacer consideraciones sobre esta última, y de sus lesiones oculares, que una cosa es la toxemia gravídica y otra las manifestaciones durante el embarazo, de nefritis pre-existentes, que revisten a veces gravedad suma, por cuanto que la función renal ya está afectada antes de la gravidéz, y que cuando de ésta circunstancia se trata, el pronóstico para la vida, siempre es fatal a un plazo de uno a tres años.

En las nefrofatías puras, existen comunmente, tarde o temprano lesiones oculares, caracterizadas, grosso modo, por edema palpebral bilateral, aumento del tono ocular, reducción del campo visual, escotomas, reducción de la agudeza visual, a veces hasta la pérdida absoluta de ésta, y lesiones de fondo de ojo bilaterales, consistentes en edema papilar, espasmos circulatorios, y aparición de pequeñas manchas blanquecinas, en forma de copos de algodón, que constituyen la retinosis albuminúrica.

Estos fenómenos coexisten con elevada tensión arterial, albúmina variable en la orina, retención ureica, cambios metabólicos en los iones sodio y potasio y accidentes de insuficiencia renal, no reversibles (al contrario de la toxemia gravídica) y que aunque no conducen a la ceguera total o definitiva, mas que en el caso de desprendimiento grande de la retina, agravan el pronóstico, y lo hacen sombrío en cuanto a la vida misma de la paciente.

La toxemia gravídica propiamente dicha, y sus manifestaciones conocidas con los nombres de pre-eclampsia y eclampsia, que no son sino distintos grados de la misma enfermedad, es de etiología aun dudosa si nó desconocida; pero la creencia más aceptada es que está ligada a la existencia de factores téxicos, probablemente de origen placentario, y a alteraciones circulatorias del músculo uterino.

Clínicamente, es fácil reconocerla, pero muchas veces, cuando los accidentes se han presentado en forma fulminante.

Ocurre generalmente entre el tercero y noveno mes de la gestación. El mayor número de casos se observan del sexto al noveno mes, cuando el feto ya es viable.

Es más frecuente en las primíparas, aunque puede presentarse en multíparas sin antecedentes previos, y aún en todos los embarazos de una misma mujer.

Podría afirmarse que la pre-eclampsia es una forma larvada de la eclampsia misma. Sin presentar la agravación considerable de las manifestaciones clínicas de la eclampsia pura, como la disritmia cerebral, las convulsiones y el estado comatoso.

En todos los casos la manifestación precoz más ostensible es la hipertensión arterial, *la seventidad de la cual da el alerta para vigilar desde un principio las manifestaciones retinianas.*

El cuadro pre-eclámptico se caracteriza por moderada hipertensión, ligero edema y, escasa albuminuria (de 0.10 a 0.80 por litro) y puede ser compatible con la terminación normal del embarazo, como una forma frustra de la eclampsia.

La eclampsia pura, presenta síntomas cerebrales, visuales, gastro-intestinales, y renales, de pronóstico grave.

Cuando la cifra tensional sigue aumentando, la cantidad de albúmina subiendo (puede llegar hasta 10 y 12 gramos por litro) el edema persiste o aumenta, existe cefalea, vértigo, somnolencia, taquicardia, poliuria, e hipertemia, náuseas, vómito, oliguria o anuria, y accidentes oftalmoscópicos, caracterizados al principio por vasoespasmos, y poco después por manifestaciones retinianas, que pueden ser anteriores a los accidentes generales graves. Este cuadro puede semejarse, para el diagnóstico diferencial, con la glomérulo-nefritis difusa aguda que presenta síntomas cerebrales y convulsivantes.

El espasmo circulatorio (espasmos arteriolares), la peri-papilitis, el edema papilar, y la aparición de esclerosis de los vasos, seguida de focos hemorrágicos, exudados (poco frecuentes) y el edema de la retina, antes de la invasión de la mácula lútea (lesión irreparable de ceguera), y la aparición de "copos de algodón," conducen la terapéutica del caso, más que el estado general de la enferma.

En estas condiciones, la colaboración estrecha del Oftalmólogo y del obstetra es indispensable.

Abrigamos la creencia, que muy a pesar del tratamiento general llevado inteligentemente, no obstante los recursos terapeúticos actuales, como el reposo en cama, la sedación delsistema nervioso central, la medicación hipotensora, la diuresis provocada para evitar la retención del sodio y agua, y eliminar los edemas (diamox) el uso del suero glucosado, del sulfato de magnesia, el largactyl (en experimentación), y el moderno empleo de la novocaína intravenosa, etc. el tratamiento de elección para salvar a la madre y en un nivel bajo al producto de la concepción, es la interrupción quirúrgica del embarazo, especialmente por haber enfatizado antes, que la eclampsia pura, se presenta cuando el feto es viable.

En estadística de Rochon-Duvigneaud, presentada a la Sociedad Francesa de Oftalmología, sobre accidentes oculares provocados por eclampsia manifiesta:

Muertes en embarazos a término	15%
Muertes en embarazos interrumpidos artificialmente	4%
Ceguera en embarazos a término	25%
Ceguera en embarazos interrumpidos	6%
Muerte del producto de la embarazada con afección gravídica ocular	80%

en 55 casos observados.

Este cuadro indicaría, que el mejor pronóstico para la vida de la madre, sería dado por la interrupción precoz del embarazo, a la luz de la severidad de los datos oftalmológicos obtenidos.

En lo personal, difiero grandemente de la estadística mencionada, por lo menos en nuestro medio.

En 34 años de ejercicio profesional contínuo, he tomado parte activa como consutante en cerca de 200 casos de eclampsia gravídica en todas sus fases, y cuando ésta ha sido de forma pura (es decir, sin enfermedad renal previa), no he encontrado secuelas posteriores al parto o a término, *que produzcan ceguera definitiva* y, en cambio, en las enfermas observadas, muerte del producto en un grado más alto hasta 90%.

Existen casos de relativa frecuencia en la práctica privada, en las que por ignorancia, por apatía, por no consultar regularmente al médico, o por consideraciones de índole moral, en las que la enferma o los familiares deciden que el caso se resuelva espontáneamente, en los cuales se interviene fuera de tiempo y pueden provocar la pérdida de dos vidas: madre e hijo.

Citaré a este respecto un caso en el cual colaboré con el extinto Maestro D. Gonzalo Castañeda, quien fuera Primer Presidente Nacional del Capítulo Mexicano del Colegio Internacional de Cirujanos, de una enferma, en el séptimo mes de la gestación, con feto muerto [illegible] hipertensión [illegible] su hijo podía nacer normalmente y consideraba un delito el parto provocado.

Con la muerte del producto, los fenómenos de la toxemia gravídica se modifcaron grandemente, especialmente los signos oftalmoscópicos, lo que demuestra la reversibilidad o labilidad del síndrome.

Al fin fué operada, pude seguir observando a la paciente, la cual conservó después del puerperio, presión arterial elevada, albuminuria de 10/1000, reducción del campo y agudeza visuales, y murió dos años después por síndrome de hipertensión.

Insistiendo en que la toxemia gravídica tiene mayor incidencia del sexto al noveno mes, cuando la viabilidad del feto puede significar la vida del producto y, dado que aún en las mejores condiciones, el tratamiento médico fracasa. En un porcentaje elevado de enfermas, *debe procederse sistemáticamente a la desocupación quirùrgica del útero gravídico.*

Proceder el cirujano al estudio del momento propicio; si el cuello está maduro, practicar la ruptura de las membranas, y preferentemente, procurar actuar cuando las crisis convulsivas han sido controladas por medios terapéuticos, actuando entonces por inducción del parto, por versión, por maniobras internas, si el *cervix* está maduro, o en caso contrario practicando una cesárea abdominal.

Cuando la intervención ha sido oportuna y llevada con rapidez, el producto puede sobrevivir en un promedio de 10 a 20%, pero los fenómenos tóxicos, se hacen reversibles, la recuperación de la madre se hace rápidamente, los accidentes oculares desaparecen sin dejar huella, y por lo menos, se ha logrado salvar una de las dos vidas amenzadas.

No creemos que deba adoptarse a posteriori, la conducta de proceder a la ligadura de las trompas, pues en la misma persona, puede efectuarse después un embarazo normal, a pesar del antecedente del anterior con toxemia gravídica.

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Seccão em Portuguéz

Corpos Extranhos do Aparelho Genito-Urinat de Criancas do Sexo Feminino

(Foreign Bodies in the Female Genitourinary Tract)

W. PINHEIRO, M.D., F.I.C.S.
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Three cases are reported of foreign bodies in the female genitourinary tract. All three patients were children, aged respectively 3, 9 and 11 years, the 9-year-old child being Japanese but a resident of South America. The investigation and treatment in each case are described.

ENQUANTO que ocorre com relativa frequência a incidência de córpos extranhos nas cavidades naturais de crianças, nariz e ouvidos, são bastante raros os casos registrados na literatura especialisada e referentes ao aparelho genito-urinário. Não obstante, conseguimos reunir em nossa clínica particular, tres casos, ultimamente, aparecidos e que para aquí trazemos mais como contribuição estatistica que pelo valôr científico que possam despertar. Vamos narra-los, resumidamente e sem comentarios, tal como os presenciamos.

1)—J. V. S., menina de apenas três anos de idade, de grande vivacidade e bastante dócil, filha de abastados fazendeiros, veio ao nosso serviço em companhia da progenitôra que nos narrou o seguinte: desde há já quatro mezes notou que a menor, até então muito saudavel, vinha apresentando manchas amareladas em suas peças intimas, estado que rapidamente se agravou a ponto de torna-la mal cheirósa ao menor descuido higienico. Ouvido um pediátra e seguida a medicação por ele instituida, por cerca de quarenta dias, verificou que a ilhinha, pouco ou nada havia melhorado, arão por que veio á nossa procura.

Por se tratar de criança [illegible]

foi-nos facil examina-la convenientemente: colocada na mesa ginecologica constatamos desde logo uma intensa vulvovaginite, estando os genitais externos congestos e cobertos de secreção amarelada, viscósa e de odôr desagradavel. Afastados os grandes lábios o himen se apresentou reduzido a uma simples orla, sem sinais de violência, o que dava amplo acesso á cavidade vaginal do que nos aproveitamos para a colheita de material para exame microscópico que, de resto, nada revelou de mai importante: germes banais abundantes, ausencia de bacilos acidofilos assim como de protozoarios, celulas de [illegible]

Para [illegible] á vista de [illegible]

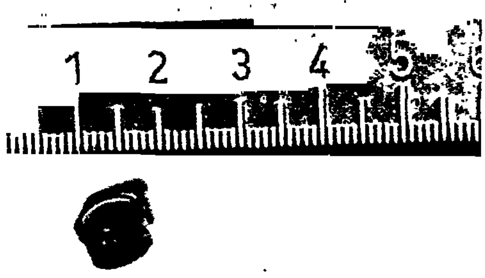

Fig. 1 *(Caso 1, J. V. S.)*.—Tampinha de materia plastica retirada da vagina da menor.

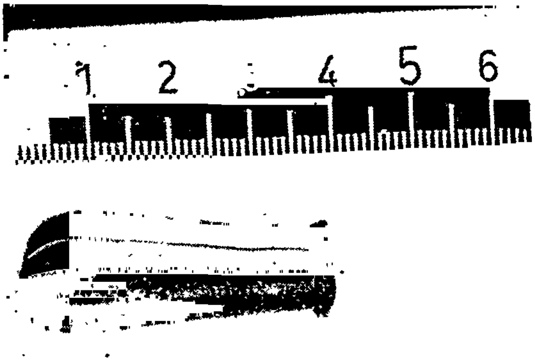

Fig. 2 *(Caso 2, K. S.)*.—Borrachinha de pinga-gotes retirado da vagina da menor.

e estrógenos em dóses fraccionadas. Inicialmente, os resultados foram animedores, entretanto, já na segunda semana de tratamento, aos poucos o corrimente crecia de volume assim que os curativos eram espaçados.

Variamos a medicação tópica, percorrendo toda a gama dos ditos "especificos" e nada de mais positivo obtivemos quando, já um tanto desanimados, ante a rebeldia do caso, ouvimos da mãe da menor, que tambem se impacientava, o seguinte: Doutor, certa vez, parece-me, filhinha disse-me ter posto uma tampinha, ao que não dei maior importância nem mesmo pensando em tal possibilidade.

Alertados por essa informação, ainda que vaga, resolvemos fazer uma sondagem vaginal utilisando-nos de um estilete metalico de extremidade olivar, com ele procurando executar um movimento circular em torno do cólo uterino. Logo ao atingirmos o fundo de saco posterior sentimos o contacto de quelquer cousa que atritava contra o estilete; repetimos a manobra e já agora não tivemos mais dúvidas de que, realmente, lá estava um corpo extranho. Com uma pinça dente de rato, fina e angulada, conseguimos, depois de uma tentativa frustrada, agarrar o intruso e traze-lo para fóra da vagina e aquí documentado com a foto no. 1: tampinha de materia plastica. A menor restabeleceude, prontamente, podendo-se mesmo dizer que a doença deixou de existir, desde a remoção do côrpo extranho.

2)—K. S., 9 anos, filha de japonêses e residente na Fazenda Nova América, veio á consulta em companhia de uma irmã casada que, sem maiores preambulos contou-nos a seguinte história: ontem á tarde, K. S. que se achava com outras crianças procurou-me, muito assustada, dizendo que estando a brincar com uma borrachinha de *pinga-gotas*, sem saber como, desaparecera em seu corpo, indicando-lhe o logar escolhido para a brincadeira de mau gosto . . . Pósta a menor na mesa ginecologica e afastados os grandes lábios, através da ampla fenda himenal, não dilacerada, entretanto, conseguimos localisar o côrpo extranho e com facilidade extrai-lo, do qual aquí exibimos a foto de no. 2.

3)—D. C., 11 anos de idade, filha de pequenos agricultores, orfã de mãe, vivendo em companhia da madrasta com quem veio á consulta. Tratava-se de uma menina bastante robusta, precocemente desenvolvida, inteligente e extremamente maliciósa e desde o inicio do interrogatorio percebemos que nenhuma informação util, dela obteriamos. Mesmo ápos a inesperada revelação feita pelos R. X. a sua atitude não se modificou e dirse-ia estar ela adredemente instruida para afastar de si todo e qualquer sentimento de culpa no sucedido.

Sua história, assim se resume: tendo sempre gozado de excelente saude, começou, entretanto, desde há tres mezes queixar-se de perturbações urinarias, com micções frequentes e dolorosas sendo por isso obrigada a levantar-se muitas vezes durante a noite, para urinar o que fazia com grande sofrimento.

De inicio, não deram os familiares maior importância ao caso, procurando resolve-lo com remedios caseiros o que, evidentemente, não lhe trouxe melhóras. Procurou, então, um facultativo que lhe prescreveu, sulfas e penicilina de que fez uso seguido, por cerca de 1 mez o que lhe deu a certeza de cura compléta. Por essa época, fazendo uma viagem de caminhão, num percurso de 50 kilometros, nada de anormal sentiu durante o passeio; mas, na noite desse mesmo dia, acordou sentindo-se mal e, quando, com grandes esforços, conseguiu emitir um pouco de urina, constatou, com espanto, que ela era vermelha como sangue. Alarmada a familia, providenciou a vida imediata de um medico que, em face da hematuria constatada aplicou-lhe logo uma injeção de coagulêno, prescrevendo-lhe a seguir vitamina k, per os e repouso no leito, medidas estas que surtiram pronto efeito. Uma semana após, sentindo-se bem dispósta, resolveram os familiares regressar á casa, fazendo-o dessa vez em automovel como medida de precaução. Não obstante esse cuidado, assim que chegou, as dores reapareceram e ao urinar notou que o sangue, novamente, se fazia presente. Retomou, então, a medicação anteriormente prescrita durante alguns dias e ao sentir-se melhor veio á consulta. Ouvida a sua historia [illegible] pouco mais nos adeantavam além da época em que a moléstia apareceu, já que os esclarecimentos acima foramnos prestados pelo pái.

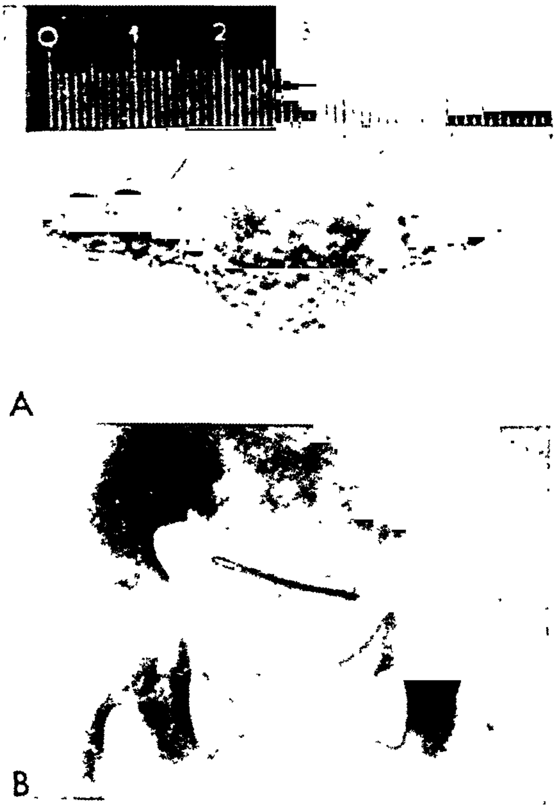

Fig. 3 (*Caso 3, D. C.*).—Foto (*A*) e roentgenograma (*B*) da bacia e calculo extraido da menor.

Palpação e toque retal, nada revelaram de importante; o exame ginecologico, comprovou a virgindade da paciente.

O exame de urina evidenciou um processo de cistite cronica, com o cortejo de todos os elementos sempre presentes em tais circunstâncias. Entretanto, não nos contentamos com esse resultado já que a coincidência da hematúria com as viagens feitas, sugeria-nos algo de mais importante. Providenciamos, então, o exame cistoscópico que, não obstante a cistite existente, foi muito bem tolerado, mostrandotamos o cistoscopio para a zona do trigono, onde fomos encontrar um grande calculo de superfice granulósa, cor amerelada e aparentemente redondo, já que as suas extremidades laterais estavam recobertas pela mucósa vesical e a ela aderentes como ficou demonstrado no ato cirurgico. Para complementar a cistóscopia, pedimos uma radiografia que nos tóuxe a surprendente revelação qual fosse a presença de um grampo de cabelos como o nucleo, em tôrno do qual o calculo se formára.

Propuzemos, então, a intervenção por via alta já que, condições peculiares ao caso, grampo metalico, potencialmente contundente, de um lado e virgindade de outro afastavam a possibilidade de outras vias de acésso. Aceita a propósta, no dia imediato praticamos uma cistotomia supra-pubica que não apresentou maiores dificuldades, alêm dos descolamento do calculo, intimamente aderido á mucosa vesical, pelas suas extremidades laterais. Terminamos a intervenção por uma dupla drenagem, suprapubica e uretral, com sondas adequadas.

As sequências operatórias foram as mais favoraveis possivel, suprimindo os drenos, resepivamente, nos 5° e 11° dias, deixando a paciente o Hospital, no 13° dia em perfeitas condições. A peça extraida ora constituida por um calculo fosfatico que pesou, no momento da extração, nada menos de 10 gramas e aqui é apresentado por meio da foto de no. 4.

O roentegenograma aquí exibido, tomado do baixo ventre da menor, foi-nos fornecido pelo radiologista Dr. R. Savastano a quem agradecemos, assim como ao Dr. Vilas-Bôas, auxiliar da intervenção, pela colaboração prestada.

Agóra, cabe aquí uma indagação: como e quando teria o grampo, causa diréta de toda essa complicação, ido parar na bexiga da menor D. C. ?. O como foi e será sempre um segredo que ela, desde o inicio, procurou, maliciosamente, guardar para si mesma. Já o quando, parece-nos mais facil de vez que seja apenas uma questão de calculo, dessa vez, matematico.

Comprovaram os estudiósos do assunto que os calculos dessa natureza crescem numa média de 2 gramas por ano, portanto, pesando o especime em apreço cerca de 10 gramas, pelo menos, de quatro a cinco anos foi esse grampo, hospede pouco incomodo de uma bexiga complacente.

* * *

With Hippocrates' death the practice of examining patients and taking careful histories died out. Galen, a celebrated physician about six hundred years later, recorded histories of his patients, but his histories were evidently intended mainly for publication, as they are largely descriptions of his great skill in curing disease.

—*Major*

Editorial

The Surgeon in the Invisible World: Microbiology and Immunology

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IN the history of surgery, the chapter dealing with the rise of bacteriology and immunology is one of the most fascinating and dramatic. I hope to make this evident in the pages to come.

If we examine the structure of modern surgery, we may say that it rests upon four principal foundation pillars. The first of these is the pillar of anatomy, and one of its chief builders was Andreas Vesalius, who published his great work *De Fabrica*, etc., on the structure of the human body, in 1543. The second pillar is that of physiology, erected by William Harvey in 1628 when he published his little book announcing his discovery of the circulation of the blood. The third pillar is anesthesiology, a much newer one that was unveiled to the world only in 1846, when W. T. G. Morton, a dentist, publicly demonstrated the anesthetic properties of ether at the Massachusetts General Hospital in Boston. The fourth pillar, the subject of this essay, is microbiology and immunology.

All will surely agree that without an accurate knowledge of anatomy, normal and pathologic, surgery as we know it today would be impossible. And it is equally obvious that knowledge of the functions of the various parts of the body, that is, physiology, is also a *sine qua non* to the well-equipped surgeon. Yet, until slightly more than a century ago, even the most knowledgeable surgeons had to contend with one of the most terrible impediments to the successful practice of the craft—pain. In an address before the Medical and Chirurgical Faculty of the State of Maryland in April 1899, William W. Keen, one of the great American surgeons of the nineteenth century, said: "Prior to that time (i.e., 1846) a surgical operation was attended with horrors which those who live in these days cannot appreciate. He was the best surgeon who could perform any operation in the least possible time. The whole object of new methods of operating was to shorten the period of frightful agony which every patient had to endure. Every second of suffering saved was an incalculable boon. . . . All of the more modern, deliberate, careful, painstaking operations involving minute dissection, amid nerves and blood vessels, when life or death depends on the accuracy of almost every touch of the knife, was absolutely impossible. It was [illegible] hours or even longer, to such physical agony."

For the relief of such suffering, anesthesia was indeed a blessing and a gift from heaven. Nevertheless, even after the conquest of pain, the surgeon was still hampered in the successful performance of his tasks by the dread specter of infection.

The control of infection is now so routine a part of the surgeon's training and indeed so ritualized in its performance that he can be adjudged guilty of malpractice if he fails to take any necessary step to prevent infection. Yet, until almost a century ago, infection and death from infection were regarded as unavoidably frequent concomitants of surgical practice.

In 1826, John Bell, Professor of Surgery in Edinburgh, one of the outstanding surgeons of his day, published a new edition of his work, *Principles and Practice of Surgery*. In his chapter on abdominal surgery (p. 313) he wrote, "Having put it down as prognostic, which is but too well confirmed by much melancholy experience, that wounds of the belly are mortal, there is no reason why we should, in recording new cases take note of a man having died after such a wound. Death from such a wound is a daily and expected occurrence, and therefore is not marked; but if we find that a man has escaped, are we not to record each such escape?" Today we see the situation almost exactly reversed. Now it is a comparatively rare patient who fails to recover from abdominal injury or surgical treatment, and then his case becomes the subject of special study. And in such cases, the cause, more often than not, is some factor other than infection. With regard to other regions of the body, Bell wrote with equal hopelessness. Wounds of the joints were regarded as mortal, and his picture of the wards of a hospital is not pleasant to contemplate: "You look upon limbs variously wounded, but all of them lying out, swollen, suppurating, fistulous, rotting in their own filth, having carious bones, bleeding arteries and a profusion of matter; the patients exhausted in the meanwhile, with diarrhea, fever and pain."

Erysipelas, tetanus, pyemia and septicemia—these were the constant bedside companions of every patient who entered a hospital in those days. During the Crimean war it was said that one could always know when he was in the vicinity of a hospital, "owing to the stench of human putridity it contained."

Hospital gangrene, a disease whose bacteriologic background is not known today, was endemic in most hospitals. Bell, after graphically describing this infection, cries out in anguish:

> "What then is the surgeon to do? Is he to try experiments with ointments and plasters while men are dying around him? Is he to seek for washes and dressings to cure such a disease as this? Is he to expend butts of wine contending as it were against the elements? No! Let him bear this always in mind, that no dressings have ever been found to stop this ulcer, that no quantities of wine or bark which a man can bear have ever retarded this gangrene; let him bear in mind that this is a hospital disease, that without the circle of the infected walls men are safe; let him therefore hurry them out of this house of death; let him change the wards, let him take possession of some empty house and so carry his patients into good air; let him lay in a schoolroom, a church, on a dunghill or in a stable; let him carry them anywhere but to their graves."

I could continue "ad nauseam" with quotations and statistics showing under what horrible conditions surgery was practiced in earlier days. Indeed, by the middle of the nineteenth century, surgery seemed to have reached an impasse. Of brilliant and courageous surgeons there was no dearth. But what did it avail surgeons to operate successfully when they lost so many patients afterwards to infectious disease?

It was at this time that a revolution occurred in surgery—a revolution so far-reaching in its consequences that it completely transformed the art of the surgeon. This revolution is generally attributed to the emergence of the germ theory of disease and its application in a system of antiseptic surgery, later to be modified to aseptic surgery.

In most popular accounts of the history of surgery, two men are usually mentioned above all others as responsible for this beneficent revolution: Louis Pasteur and Joseph Lister, the first a chemist, the other a surgeon. In this presentation, however, it is not my intention to repeat a story already well known. What I wish to do is to discuss, from a much broader viewpoint, the rise of microbiology and immunology and to show how in the course of this development surgery itself was altered; how surgery, which seemed to have reached a dead end of futility, was in fact rejuvenated and was able to advance to new heights of achievement in the relief of human suffering and the extension of human life and usefulness.

Microbiology or, more specifically, bacteriology, is a relatively new science. Most of us, even if we should have to undergo major operations in the meantime, will be able—thanks to the contributions of bacteriology—to witness and perhaps even participate in the celebration of the tricentennial anniversary of the discovery of bacteria in 1976, only eighteen years from now. For it was in 1676 that a Dutchman named Antony van Leeuwenhoek first saw bacteria and protozoa (little animals, he called them) and thus became the first microbiologist.

This discovery raised no special furor in Leeuwenhoek's time or world. Scarcely

During the forthcoming months of 1959 and as long thereafter as possible, the editorial pages of the Journal of the International College of Surgeons *will be honored by presentations of rare and extraordinary historic value, the lectures presented at the International Surgeons' Hall of Fame on medical and surgical history from the earliest recorded achievements to those of our own times. We believe that* Journal *readers who were not able to attend the lectures will find them as exciting as did the audiences present at their delivery. The story of progress in the healing arts and the giants of medicine and surgery to whom we owe the amazing brilliance and scope of modern achievement is intrinsically thrilling and is a vital part of the education of every cultivated man and woman, inside or outside the profession. It is altogether fitting that it should appear in these pages, since the International College of Surgeons is first, last and always a teaching institution.*

doubtful whether Leeuwenhoek himself foresaw the consequences. Let us see for a moment who this man was and what he did.

Antony van Leeuwenhoek was born in Delft, Holland, on Oct. 24, 1632, and he died there ninety-one years later, on Aug. 26, 1723. The son of a basket maker and a brewer's daughter, he was apprenticed at the age of 16 to a linen draper in Amsterdam. Here he probably became acquainted with magnifying glasses used to examine the thread in cloth. His [illegible] turned to Delft, opened his own shop and in addition became Chamberlain of the Town Hall and also official wine-gauger of the city of Delft. Then suddenly, in 1673, Leeuwenhoek became known as an amateur scientist, having published a paper in the Philosophical Transactions of the Royal Society of London. It seems that after his apprenticeship in the linen shop he had acquired an interest in magnifying glasses and the curiosities revealed by them.

At this point I must digress for a moment to emphasize the fact that, contrary to popular belief, Leeuwenhoek did not invent the microscope. The truth is that the inventor of this instrument is not known with certainty. Like the telescope, it seems to have been simultaneously devised in Holland and Italy near the end of the sixteenth and the opening of the seventeenth century. Although optical instruments were unknown in antiquity, optics had advanced sufficiently in the Middle Ages so that spectacles were invented about 1300 in Italy. These were undoubtedly the ancestors of magnifying glasses and simple lenses, known and used before the first compound microscope was made. The persons generally credited with the invention of a compound microscope are Hans and Zacharias Jansen, father and son, lens grinders of Middleburg, Holland. They are believed to have made such an instrument—and indeed it still exists—at some time between 1590 and 1608. There is no evidence that the Jansens ever used their instrument for serious scientific investigation. At about the same time, however, Galilei Galileo in Italy, learning of this optical device by letter, proceeded independently to make a microscope of his own. More significantly, he introduced it to the scientific community. So, as Singer has so aptly said, we may regard Galileo as the effective inventor of the microscope.

It is evident, therefore, that microscopes, simple and compound, were already in existence when Leeuwenhoek took up microscopy as a hobby. And a very serious hobbyist he became. Not satisfied with such lenses as he could buy, he learned the art of lens grinding. He even made his own lens holders of wood, brass, bone and some of gold and silver. He quickly found that compound microscopes were difficult to use and that it was almost impossible to get good illumination. Worst of all, chromatic aberration made observing a very frustrating experience. Consequently he devoted himself exclusively to making and using simple lenses.

Possessed of an insatiable curiosity, a superb technic in the making of lenses and in the manipulation of objects under study, and last but least, a genius for observation, Leeuwenhoek turned his glasses on an almost incredible number of subjects, mineral, animal and vegetable. In the realm of biology he discovered so many things that almost every branch of this science might claim him as its founder. He saw and described red blood cells and spermatozoa; differentiated striated from smooth muscle and confirmed Malpighi's observations on the capillaries, thus providing the final proof for Harvey's theory of the circulation, to mention just a few of the discoveries of this remarkable man.

For us, however, his most significant achievement was his discovery of microbes in 1676. In that year, on October 9 to be exact, he wrote a letter to Henry Oldenburg, Secretary of the Royal Society of London. In this letter—the eighteenth in a series of two hundred sent to the Society — Leeuwenhoek described a variety of minute forms of life never before seen by the eyes of men. From his descriptions we know that he saw vorticella, ciliates and a number of protozoa. In addition he saw bacteria. His account of his discovery is both instructive and amusing. He did not set out to discover microbes. His real object was to find out what makes pepper hot. Like a good scientist, he had formed an hypothesis and then designed an experiment to test it. His hypothesis was that pepper was made up of tiny round grains whose surface was covered with sharp spines. These spines irritated the tongue and thus gave rise to a sensation of heat. He reasoned that these little spiny granules were enclosed in larger peppercorns. Therefore, if these large peppercorns were soaked in water, they would become soft and release the spiny granules, which could then be observed under the microscope. Thus the experiment was set up. Some days later, Leeuwenhoek examined a drop of this pepper water to see how things were progressing. One look through his lens and he forgot all about the pepper experiment. As he wrote later: "I saw therein with great wonder unbelievably many very small animalcules of various sorts . . ." He described three different forms and then continued ". . . the fourth sort of animalcules which floated about amongst the other three sorts, were incredibly small; indeed so small in my sight, that I judged if all of 100 of these very small animalcules were stretched out against one another, they would not reach the length of a coarse sand grain. This being true, then ten hundred thousand of these living creatures should not be able to fill the volume of a coarse sand grain."

Careful study of Leeuwenhoek's writings leaves no doubt that he actually did see bacteria. Nevertheless, there is no valid evidence that either Leeuwenhoek or his contemporaries grasped the significance of this observation. No one realized that these "little animals" were connected in any way with such natural processes as fermentation and putrefaction. No one suspected that microbes were concerned with brewing and baking, with the making of wine and the production of cheese. And least of all did anyone dream that the solution to the mystery of infection, of plagues and epidemics, lay in a drop of pepper water under a tiny lens. The mystery of course was ultimately solved. It was solved, as we all know, during the last portion of the nineteenth century.

Fig. 1.—Jacob Henle. *(Reproduced by courtesy of the National Library of Medicine.)*

Definite and scientifically acceptable proof that bacteria cause certain diseases was given to the world in 1876, exactly two hundred years after microbes were discovered. This fact raises a very interesting question. Why did it take two hundred years to discover the connection between bacteria and disease? Two centuries is a long time.

Many reasons have been advanced to explain the lag between the discovery of microbes and the application of this knowledge to the problems of disease. Poor optical equipment was of course an important deterrent to progress in a field where [illegible] an important role. However, [illegible] microscopy began, slowly, it is true, to remove some of the obstacles to progress.

An even more important reason was the persistence of erroneous ideas about the nature of diseases and their causes.

From his very beginnings man has been a creature looking for the causes of happenings. He knew, for example, that a limb falling from a tree could cause a broken head—that a stone thrown by an enemy could cause a wound of fatal consequences. He knew that wild animals could bring about injuries and even death, and he learned that certain plants, if eaten, were detrimental to health and a menace to life itself. All of these dangers he recognized and he even made attempts to prevent these causes from operating or, when possible, to repair the damage resulting therefrom. Surgery thus arose from man's attempts to cope with injuries brought about by recognizable external agencies.

But the problem of disease and death arising from causes or agencies not evident to the senses posed an altogether different problem to our ancestors. Arrows could be dodged—but who could dodge a pestilence? One could fall asleep a well man and awake sick and miserable. The skin could discolor, the head ache, the eyes and nose discharge, chills and fever rack the body, cramps knife through the abdomen, strength to take food or to hold it could be lacking. Often death resulted—sometimes not. Yet no one knew why. No cause was visible or evident to any sense organ. Frequently, not individal persons but whole communities and often nations were afflicted with epidemic disease without ascertainable cause.

No wonder that early man, as some primitive peoples still do today, attribute disease to malevolent spirits, angry deities, vindictive enemies capable of sorcery, or the offended spirits of the dead. A logical product of these early notions of the causes of disease was the medicine man or witch doctor. His therapy was based on the theory that since disease was caused by evil or malign spirits who must be exorcised, or angry or displeased gods who must be appeased, vigorous methods were necessary. Hence the spectacular therapeutic procedures in which the doctor dressed in terrifying costumes and made a great noise with shouts, rattles and drums, all designed to frighten the demons out of the patient's body. Charms and amulets to ward off the return of the demons were also used, while special offerings and ceremonies were thought to help appease the anger or displeasure of a god. The theurgical theory of disease was common not only among primitive peoples but even among those whose social and economic order was much more advanced—Egyptians, Babylonians, Hebrews, Greeks and also the Romans.

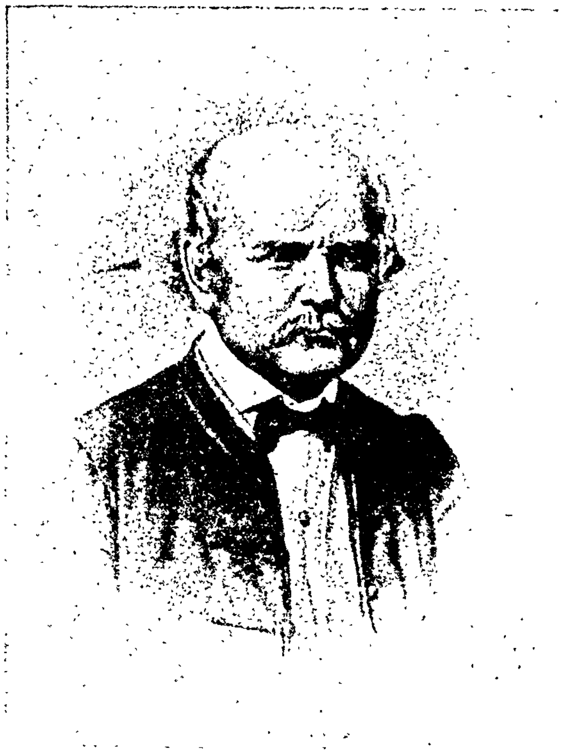

Fig. 2.—Ignaz Philipp Semmelweiss. (*Reproduced by courtesy of the National Library of Medicine.*)

With the passage of time and as peoples

became more sophisticated, diseases, especially infectious ones were attributed to cosmotelluric causes, i.e., eclipses, comets, earthquakes, abnormal rains or droughts, and especially changes in the atmosphere resulting from pollution by noxious vapors or emanations from swamps. Such emanations were known as miasmas and the miasmatic theory of disease held sway for a very long time. The word malaria—literally "bad air"—is a verbal fossil recalling such beliefs.

Over the centuries, however, a few acute observers and advanced thinkers began to speculate on the possibility that minute forms of life, such as worms or insects or perhaps even some invisible animate body, might in some way be concerned with the causation and transmission of infectious diseases. One of the earliest to give explicit expression to such an idea was Hieronymous Fracastorious (1478-1553), an Italian physician who was also a poet and astronomer. His treatise *Contagion, Contagious Diseases and Their Treatment* is a landmark in the history of our knowledge of infectious diseases. The author classed such diseases into three types: (1) diseases transmitted by immediate contact (true contagions); (2) diseases transmitted through intermediate agents like fomites—he defines fomites as follows: "I call fomites—clothes, wooden things and other things which are not corrupted but are able to preserve the original germs of the contagion and to give rise to its transference to others"—and (3) diseases infecting at a distance or through the air, such as pestilential fevers, phthisis and conjunctivitis. In presenting these ideas Fracastorius showed himself to be an original thinker, and he did crystallize the diffuse and amorphous thought of his day. Although he spoke of germs as seminaria, he did not possess a microscope and presented no experimental proofs of his theory. Nevertheless, his book did influence epidemiologic thought for a long time. About a century later, in 1658, Athanasius Kircher (1602-1680), a Jesuit priest with a taste for scientific investigation who did possess a microscope, came somewhat closer to the truth. He claimed to have seen minute worms in the blood of plague patients and wrote that these were the cause of the disease. Kircher's instrument, we now know, was not powerful enough to enable him to have seen bacteria, and it is probable that he saw clumps or rouleaux of red blood cells, forms that could be mistaken for worms.

[illegible]

It is evident, then, that by the time Leeuwenhoek discovered bacteria a few persons were already beginning to speculate about minute animate agents of infectious diseases. After Leeuwenhoek's discovery even more persons began to publish their speculations. Thus, during the eighteenth century Benjamin Marten (1704-1782), and [illegible] in England, M. A. [illegible]

(1705-1786), an Austrian, and J. B. Goiffon (1658-1730), a Frenchman, all independently propounded germ theories of disease. None of these writers, however, came forward with any experimental proof or even with concrete suggestions for experiments to test their guesses. Despite the fact that, collectively, their ideas came somewhat close to the truth, their contemporaries were not convinced.

The basic difficulty was that, between the time of Leeuwenhoek and Robert Koch, *no one knew how to handle bacteria.* From the time of Leeuwenhoek on, everyone who attempted to study bacteria and other forms of microscopic life used free-living forms, i.e., those that could be found in a drop of pond water or in some decaying, putrefying or fermenting matter. No one knew whether these organisms were plant or animal. In 1735, when C. Linnaeus (1707-1778) published his great classification of living things, he placed bacteria in class *Chaos,* a good place for them, since this category reflected the thinking of the time about these organisms. Even C. G. Ehrenberg (1795-1876) and O. F. Müller (1730-1784), who were among the first to make systematic studies of microbes, did so on forms they found in nature. The idea of cultivating germs, of obtaining them in pure culture and of studying their physiologic and biochemical as well as their morphologic nature was a notion that did not appear until after the middle of the nineteenth century. As a matter of fact, as long as men were content to study free-living forms there was even room for a theory of spontaneous generation. Since no one knew where microbes came from, it was quite logical to believe that they were the *result* of fermentation or putrefaction rather than the cause. Justus von Liebig (1803-1873), the great German chemist, did believe just that.

Equally logical was the notion that germs were the result of an infectious process rather than the cause. Nevertheless, the great controversy over spontaneous generation was actually a step in the direction of learning to handle bacteria, since the experiments performed by John T. Needham (1713-1781), Lazzaro Spallanzani (1729-1799), Theodor Schwann (1810-1882), Franz Schulze (1815-1873) and Theodor von Dusch (1824-1890), to mention but a few of the workers, developed some of the technics that made possible the manipulation of microbes.

Side by side with the speculations about spontaneous generation, nevertheless, individual workers were accumulating evidence that pointed to an association of microbes with disease. Thus in 1834, Agostino Bassi (1773-1856), an Italian who had been studying a destructive disease of silkworms (called *muscardine* by the French and *mal de segno* by the Italians) published the results of his investigations. He showed that the disease was contagious and was caused by a parasitic fungus. Furthermore, he suggested that such contagious diseases as smallpox, typhus, plague, cholera and syphilis were caused by living parasites. Bassi's work on *muscardine* was confirmed in 1835, and observations along similar lines were made in France and Germany; but these remained isolated instances, unsupported by hard proofs and not unified by any comprehensive theory.

In 1840 the first breakthrough in the problem appeared. Jacob Henle (1809-1885) in that year published a little book entitled *Pathologische Untersuchungen.* The opening chapters on "miasmata and contagia" are justly regarded as classics in the literature of bacteriology. Here we find for the first time a coherent theory that living microorganisms caused infectious diseases. Reasoning from facts collected by many workers, Henle attempted to create some order out of the confused welter of ideas concerning the nature and causes of contagious and infectious diseases.

Henle was not the first, as we have seen, to voice a microbic theory of disease, but he was the first to suggest a *modus operandi* for proving the truth of such a theory. He pointed out that only by experiment could it finally be determined whether or not microbes cause disease. He argued that morbid matter in patients with infectious diseases seems to increase from the moment it enters the body, and from this Henle concluded that the morbid principle must be organic and therefore living. The incubation period that commonly precedes the outbreak of a disease also suggested that a living organism was multiplying in the body of the host. Henle recalled the observations of Bassi and others and reasoned that such an organism was probably a form of plant life. Additional support for this reasoning came from the work of C. Caignard-Latour (1777-1859) and T. Schwann (1810-1882), who had already found evidence that fermentation resulted from the action of minute organisms — yeasts. And now Henle proceeded to lay down the postulates of proof that would have to be met in order to show conclusively that specific organisms were the causes of specific diseases. The conditions were that a specific organism must always be found associated with a specific disease—that it should be possible to isolate the organism from mixtures and grow it outside the body—and, finally, that after isolation this same organism should be capable of inducing the same disease in an experimental animal. Henle himself performed none of these experiments. Twenty-five years later, however, his brilliant pupil Robert Koch (1843-1910) did succeed in producing evidence which satisfied his master's canons. Indeed, every student of bacteriology, and of medicine as well, [illegible] Koch's postulates.

Before [illegible] the work of Koch,

Fig. 4.—Louis Pasteur. (*Reproduced by courtesy of the National Library of Medicine.*)

however, it is necessary to consider for a few moments a contemporary whose contributions were equally notable — Louis Pasteur. So much has been written about him that it would be superfluous to attempt to add anything new. Nevertheless, there are a few points about his work which I wish to recall. As is well known, Pasteur (1822-1895) was neither a physician nor a biologist. He was a chemist, and he became involved in the study of infectious diseases through a rather devious set of circumstances. His work demonstrates beautifully how the disinterested search for apparently useless knowledge can produce results of the highest practical importance.

Pasteur chose, as the subject of his first serious scientific investigation, tartaric acid. It seemed that there were several forms of this acid which, though chemically indistinguishable, [illegible] of polarized light. His [illegible] study the crystals of tartaric acid and also those of a variant form known as racemic acid. He soon observed, with the aid of a microscope, that some of the crystals had one corner missing. And then he noted that this irregularity was not haphazard. In some crystals a right-hand corner was absent, in others a left-hand one was missing. In fact, the crystals were mirror images of each other. Pasteur already suspected that crystal form and chemical structure were related and that optical activity as observed with polarized light might be an indicator. To test his hypothesis, he made up some batches of crystals and then proceeded to separate them into two groups of right-handed and left-handed forms. When he dissolved the crystals and placed the solutions into a polariscope he found that the right-handed crystals rotated the beam of light to the right and the others to the left. And then, finally, he found that if he mixed equal numbers of the crystals and dissolved them, the resulting solution was neutral to polarized light. This solved the mystery of racemic acid, which turned out to be nothing but a mixture of two optically different forms of tartaric acid.

From these studies Pasteur moved on to a study of a whole family of organic acids, and he soon found something else of interest. He observed that certain organic acids were associated with fermentation and furthermore that they displayed optical activity associated with the presence of certain ferments. By that time (1857) Pasteur was Dean of the Faculty at Lille, the center of the great distilling fermentation industries of France. He studied in rapid succession various kinds of fermentation, alcoholic, acetic, lactic, butyric, malic and others. In each case he was able to show that the reaction was dependent upon the presence of specific living ferments. He showed that with each type of fermentation a certain type of organism was always present. He was able to isolate the organism and to grow it in pure culture in an artificial culture medium he devised, and with these organisms he could initiate specific fermentations at will. These experiments, of course, provided exactly the sort of evidence Henle had called for to prove that specific organisms were the causes of specific diseases. It is therefore easy to understand now how Pasteur, a chemist, was able to approach the problems of infectious diseases.

It will not be out of place here to recall that about two hundred years earlier (area 1650) Robert Boyle (1627-1691), one of the founders of modern chemistry, had declared that "he that thoroughly understands the nature of ferments and fermentations shall probably be much better able than he that ignores them, to give a fair account of divers phenomena of several diseases (as well fevers as others) which will perhaps be never properly understood without an insight into the doctrine of fermentations." Prophetic words indeed.

In the course of his studies on the nature of fermentation, Pasteur was called upon to advise the brewers and distillers of his locality about the causes of the spoilage of beer and the souring of wine. Because of his earlier studies he was able quickly to show that, here again, specific fermentations were the result of specific microbial activity and that when the fermentation went awry it was because of the invasion of foreign organisms that produced products other than the desired alcohol. Pasteur thus conceived the idea of diseases of beer and wine and showed how these could be prevented by suppressing the activities of all organisms except the specific ones that produced the desired reaction of fermentation. He showed that by simply heating wine at a specified temperature for a short time it was possible to kill off the undesirable ferments. This process, now universally applied to milk as well as to alcoholic liquors, is the familiar method known as "pasteurization."

A logical bypath of these investigations was the problem of spontaneous generation. I have already mentioned that many persons, including Liebig, had argued that fermentation and putrefaction were not caused by the activity of living organisms but, rather, that the organisms were generated by the fermentative or putrefactive process. Pasteur had to answer these arguments. If his contention was true, that specific organisms were the cause of specific fermentations, he would have to demonstrate that if these organisms were excluded no fermentation would take place.

With characteristic vigor, Pasteur entered on the now historic controversy over spontaneous generation. Partly by virtue of his experimental skill and partly by luck, he was able to show that the spontaneous generation of microscopically visible organisms was a fiction. He showed that bacteria and related organisms are universally distributed through the atmosphere; that, being particulate, they are subject to the laws of gravity and settle out from quiet air, that this air, free from dust, cannot initiate fermentation in fermentable fluids, and finally that these microbes, if one follows the technic of Schroeder and von Dusch, can be filtered out from the air by cotton wool. Thus, air which has been drawn through a cotton wool filter cannot initiate fermentation, but if a susceptible fluid is allowed to touch contaminated wool, fermentation promptly begins. Pasteur was not alone in these studies. In England, John Tyndall (1820-1893) was conducting similar experiments, and his results served to bolster those of Pasteur, indicating that spontaneous generation could not be demonstrated if appropriate techniques and precautions were used.

And now a most significant and practical application of [illegible] of Pasteur's [illegible] was made to the field of surgery—an application that became evident quite early, even though all the important questions about the relation of microbes to infection had not been answered.

Surgery, as we have already seen, had by the middle of the nineteenth century reached an impasse. Pain, one of the great factors limiting the advance of surgery, was coming under control through anesthesia, but sepsis still stalked hospital wards and operating theaters. Rare indeed was the surgeon who could boast of a low mortality rate among his patients. Henle's writings had inspired no surgeon to look into the causes of surgical infection. The tragic Ignaz Semmelweiss (1815-1865) of Hungary had shown (he had no knowledge of microbes) that the simple precaution of hand-washing by surgeons, doctors and midwives could reduce the incidence of puerpural fever to the vanishing point. The American writer and physician, Oliver Wendell Holmes (1809-1894), had almost simultaneously with and independently of Semmelweiss also concluded that childbed fever was contagious and preventable. The time was not yet ripe, however, for the next major advance in surgery. It was Joseph Lister (1827-1912), an English surgeon, who made this possible.

Lister was not only a surgeon, he was an investigator as well. Early in his professional career he became interested in the phenomenon of inflammation. He was struck by the fact that patients with simple fractures suffered less from inflammation at the site of injury than did those with compound fractures, were practically free of infection and of pus and generally made rapid and uncomplicated recoveries. In those with compound fractures, the picture was different. Infection was almost inevitable, and the rate of mortality was very high. Lister [illegible] and induced infection, with all its sequelae. In 1865 he learned of the work of Louis Pasteur and glimpsed at once the implications for surgery.

He reasoned that if wound infections were caused by germs floating in the air that came into contact with injured tissue, then such infections could be prevented by destroying the germs. He began to search for a suitable chemical or antiseptic substance. He hit upon carbolic acid* and began to develop his system of antiseptic surgery. His first patients were treated in August 1865, and he began to publish his results in 1867. In his own hands his method produced remarkable results, but his principles were slow in gaining acceptance. And the reasons for the lack of enthusiasm among medical men for Lister's antiseptic surgery were essentially the same as during the time of Semmelweiss and Holmes. Even in 1867 there was no really convincing proof that bacteria could cause disease, and the reason was, as I have mentioned earlier, that methods for handling microbes were still in their infancy.

Pasteur, it is true, was already on the road to the demonstration—still awaited—that a specific organism was in fact the cause of a specific disease. But he was a chemist, and no medical man, except Joseph Lister, paid any attention to Pasteur's work. And even Lister's work was empirical in the sense that he made no effort to isolate and identify specific organisms as the causes of specific types of wound infection. True, he did work with the lactic acid bacillus, but this was mainly for the purpose of developing technics useful in practicing antisepsis.

The fact is that thinking about bacteria was still greatly confused. At one time or another various observers had claimed to have seen or even demonstrated that one type of organism could be converted into another. The great Viennese surgeon Theodor Billroth (1829-1894) argued that there was only one organism capable of infinite variation. Obviously such thinking could not make for clarity in this matter. It is now evident that what was required was a reliable technic for isolating bacteria, identifying them and maintaining them in pure cultures in order to study their morphologic and physiologic nature. Pasteur, as we have seen, had already made a beginning at studying microbial physiology, but his attempts at pure cultures were vitiated by his reliance on liquid culture media.

The first to make some really substantial contributions to the solution of this problem was Ferdinand Cohn (1828-1898) of Breslau. A botanist, he had long been interested in bacteria. In 1852 he firmly established the fact that these organisms were members of the plant kingdom. His next step was to attempt to classify these forms, and he quickly realized that morphologic data were alone inadequate as a basis of classification. In attempting to separate bacteria into species, he became aware of the fact that organisms that were morphologically similar could be physiologically different. Pasteur had already shown this to be true with respect to fermentation reactions. The minute size of bacteria, of course, made them extremely difficult to work with, and there were many who believed that pure cultures of microbes were impossible of attainment. In 1872, however, a significant lead came from Ferdinand Cohn's laboratory. He had long been fascinated by the chromogenic bacteria. These organisms, which can often be found on solid materials undergoing decay, produce beautiful pigments. Cohn set his student J. Schroeter (1835-1894) the task of studying this pigment production. He grew his organisms on solid surfaces, such as slices of potato and hard-boiled eggs, or on meat, for it was on such media that the pigments were produced.

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*Lister was apparently unaware that J. Lemaire, a French pharmaceutical chemist, had advocated the use of carbolic acid as an antiseptic as early as 1860.

The use of such solid media was not in itself a brand-new development, since mycologists had long been using gelatine for growing fungi. Schroeter was one of the first, however, to use solid media for the systematic study of bacteria. He found that specific organisms produced specific pigments. On a slice of potato, for example, he might find three colored dots, one red, one yellow and one purple. Each dot was a colony of bacteria. A fragment of the dot placed under the microscope revealed that all the members of the colony were morphologically similar. Now if a bit of the red colony were transferred with a needle to a fresh slice of potato and allowed to grow, only red colonies appeared; the results were similar with purple and yellow colonies. The secret of pure culture technics had been found, but neither Cohn nor his pupil apparently realized the far-reaching implications. The application of this technic to problems of medical microbiology, however, was not long in coming.

In 1876 Cohn played host in his laboratory to a young and unknown doctor who claimed to have proved, experimentally, that anthrax, a disease of sheep and cattle, was caused by a specific germ. The disease was of considerable economic importance, and many workers had attempted to discover its cause. As early as 1849 F. Pollender (1800-1879), a German veterinarian, and later C. Davaine (1812-1882), a French pathologist, had described rods in the blood of animals dying of anthrax. They failed to recognize their significance. The work of Pasteur then led to a reexamination of the problem, and it began to be suspected that these rods might, after all, have something to do with the disease. Davaine, in a long series of inoculation experiments, showed that the rods were invariably associated with the disease. If he injected blood containing the rods into a healthy animal, the symptoms of anthrax appeared; but as long as the rods were present, as controlled by microscopic observation, Davaine was able to induce the disease, using almost fantastically small quantities of blood. Nevertheless, the proof was not considered absolute. There were objectors who argued that the rods were merely the carriers of a potent virus or poison. Davaine had no method of proving whether this was so or not. And there the problem remained until Robert Koch (1843-1910) appeared on the scene. A country medical practitioner, he was a self-taught research worker. In medical school he had studied under Henle and apparently had become interested in experimental pathology. Between patients he found time to set up a small laboratory in his home. For a problem he chose anthrax, a disease that was very prevalent on the farms in his neighborhood. Koch was a born experimenter [illegible] [illegible] He

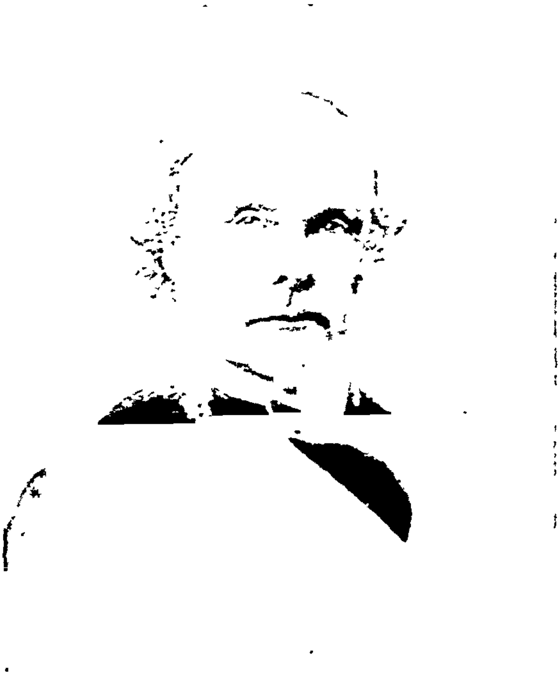


Fig. 5.—Joseph Lister. *(Reproduced by courtesy of the National Library of Medicine.)*

began his studies with mice as experimental animals. When inoculated with blood from sick cows they quickly sickened and died, and in their blood Koch found rods similar to those described by Davaine. But he did not stop with inoculation experiments. He sought for a way to cultivate the organisms outside the animal body. He wanted to get the bacteria out in pure culture and then grow them in a series long enough to dilute out any possible poison or virus of which a rod might be a carrier. Only then could he be sure that the rod was indeed the cause of anthrax. His first method was to grow the organisms in hanging drop preparations, which he could observe under the microscope. In the course of these studies he observed the spore stage of the bacillus, a stage which Cohn himself had predicted but had not seen. When organisms grown by Koch outside the animal body were then injected into susceptible animals, they came down with anthrax. Koch had proved unequivocally the postulates of proof demanded by Henle his teacher.

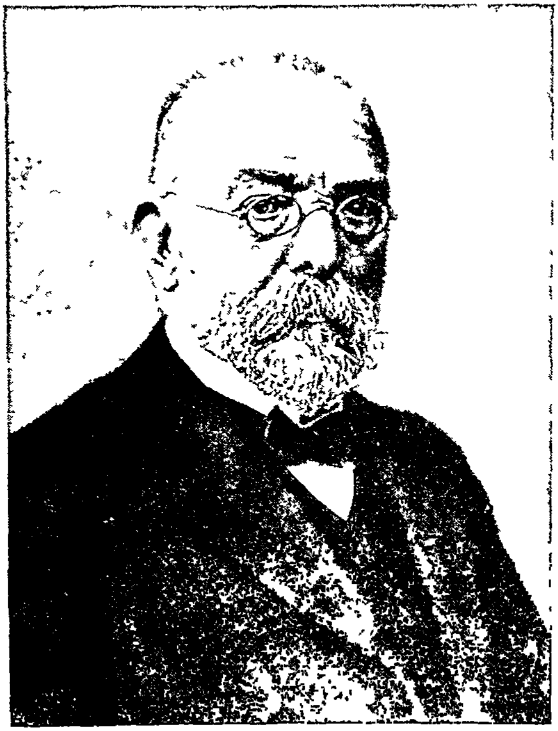


Fig 6.—Robert Koch. (*Reproduced by courtesy of the National Library of Medicine.*)

Koch now devoted himself to the development of technical methods for the handling of bacteria, for he realized that therein lay the secret of success in establishing bacteriology as a science. His most important contribution in this direction was in generalizing and standardizing technics for pure culture. It has often been said that he stumbled on the solid culture technic by observing colonies of bacteria on a slice of potato that happened to be near an open window in his laboratory. That may be so, but we also remember that Koch had spent a few days in Ferdinand Cohn's Institute in Breslau while making his anthrax demonstrations, and he must have seen Schroeter's work on the pigmented bacteria. At any rate, Koch recognized the fact that further progress in bacteriology was dependent on the development of a solid nutrient medium that could easily be sterilized. On such a medium, mixtures of bacteria, when sufficiently diluted and dispersed, would grow as discrete colonies, each presumably the offspring of a single organism. By successive transfers to fresh sterile culture plates, each colony could be purified and then maintained for detailed study. Early in the 1880's Koch's pupil Walther Hesse, at the suggestion of his American-born wife, introduced agar-agar as a solidifying agent instead of the gelatin that Koch first used. Gelatin had certain undesirable properties, and agar-agar proved so superior that it became the standard culture medium throughout the world.

In addition, a number of other technics were developed to facilitate the handling of bacteria. Improved microscopes were of the utmost importance, of course, for obviously one had to see clearly the material one was trying to handle and identify. One of the most important aids to visibility under the microscope was the introduction of stains and staining technics. The devolpment of staining methods provides another beautiful example of how knowledge acquired in one field of science makes possible advances in other fields, wholly undreamed of by the original discoverer.

The first aniline dyes were discovered in 1856. Within a few years they were found useful in staining tissues for microscopic examination. In 1875, Carl Weigart (1845-1904) showed that bacteria could be stained with aniline dyes, thus enabling the investigator to recognize them in tissues. Robert Koch simplified the technics, and further advances were made by Paul Ehrlich (1854-1915).

With the aid of these powerful new technics, the science of bacteriology developed with amazing rapidity. In quick succession, the causative organisms of some of the most devastating and widespread diseases were isolated and identified. In 1882 Koch discovered the tubercle bacillus and Loeffler and Schutz isolated the bacillus of glanders; in 1884, Klebs and Loeffler independently found the causative organism of diphtheria and Gaffky isolated the typhoid bacillus (it had been seen in tissues by Eberth in 1880), and in 1885 Escherich cultured bacillus coli. In 1886 Fraenkel obtained pure cultures of the pneumococcus, and in the following year Bruce discovered the cause of Malta fever, or undulant fever, as the disease is now called. In 1894 the causative agents of plague and of botulism were discovered, and in 1898 one of the types of dysentery bacilli was identified. These are just a few examples of the host of discoveries that followed, once the technics of handling bacteria were mastered, and thus we see why it took two hundred years for practical consequences of Leeuwenhoek's discovery of microbes to appear. And we can also see how the development of manipulative technics for handling bacteria freed the hands of the surgeon by giving him the power to eliminate infectious agents that invaded his own field of manipulative activity.

Now, finally, I must say a few words about the second half of my title, the period that witnessed the rise of immunology. The twin sciences microbiology and immunology actually gave the surgeon two strings for his bow in fighting infection. Antiseptic surgery, later modified to aseptic surgery, made possible the control of infection, mainly by denying external infective agents access to the body. Immunology, among other things, made it possible for the surgeon to utilize effectively the natural forces of the body for resisting and overcoming infection.

The idea of immunity or resistance to disease and to noxious agents is very ancient. From remote antiquity men have sought for a universal antidote either to protect against the effects of a poison

[illegible]

or to counteract one already administered. One recalls the legendary King of Pontus, Mithridates, who lived around the first century B.C. and was in constant fear of assassination by poison. He studied the effects of poisons on the bodies of slaves and criminals and tried to find an antidote. In one of his experiments he is said to have fed ducks with increasing amounts of poisonous substances, beginning with very small doses. When the birds were able to tolerate very large amounts of poison without ill effects, he killed them and drank their blood hoping in this way to transfer their resistance to poison himself. Today the phenomenon of acquired tolerance to certain poisons is known in our pharmacology texts as mithridatism.

The next step in the slow development of a science of immunity came almost at the end of the eighteenth century, when Edward Jenner (1749-1823) introduced vaccination against smallpox. An earlier method of protection against this disease, known as variolation or inoculation, had been practiced in various parts of the world for many centuries. Jenner's method superseded it, proving to be safer and more reliable in its results. Nevertheless, this was an isolated instance of a purely empirical immunization procedure. The cause of smallpox was as yet unknown; the germ theory of disease was still to be established, and there was no theory to explain the mechanism of preventive inoculation against smallpox.

We have already seen how the work of Pasteur, Lister, Cohn, Koch and a host of others had already established the basic principles of the science of bacteriology and the fact that some forms of microbial life are the causative agents of many contagious and infectious diseases. Joseph

Fig. 9.—Paul Ehrlich. (*Reproduced by courtesy of the National Library of Medicine.*)

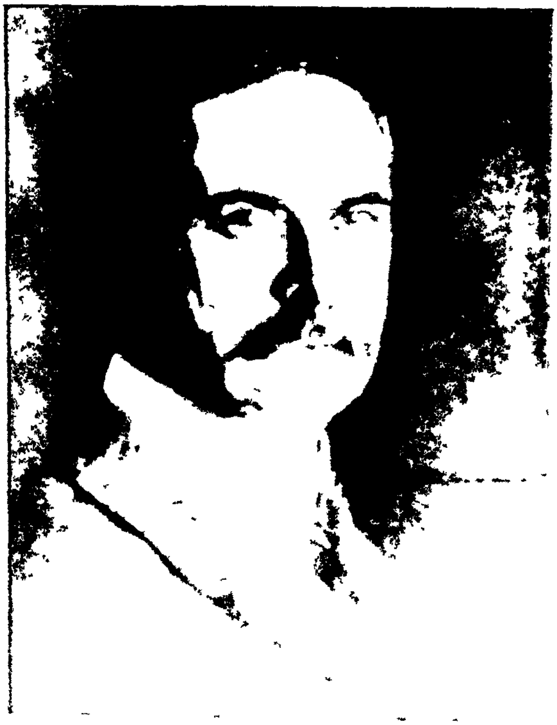
Fig. 8.—William S. Halsted. (*Reproduced by courtesy of the National Library of Medicine.*)

Lister, the surgeon, made practical application of this new knowledge by devising his system of antiseptic surgery; but, while Listerism was essentially preventive, in denying infectious organisms access to places where the infective process could take place, it did not solve the entire problem of infectious disease. To arrive at methods of controlling infectious disease, the mechanism of the infective process had to be discovered and understood.

As is so common in scientific research, accident played a role in opening up this field of investigation. In 1880 Pasteur discovered by chance that an old culture of fowl cholera organisms, which he was studying, would not induce disease in chickens. Furthermore, he noted that birds inoculated with such old cultures displayed no symptoms of disease when cultures of chicken cholera organisms of known virulence were injected. His genius grasped the significance of this observation. He saw at once that this was a phenomenon similar to Jennerian vaccination, and he quickly generalized the idea into a theory of immunity. In a similar way, Pasteur found that he could confer protection against anthrax in animals by inoculating them with anthrax bacilli, the virulence of which had been reduced by growing the organisms at an elevated temperature. His greatest triumph came when he succeeded in developing a method of protective inoculation against rabies.

In 1886, D. E. Salmon (1850-1914) and Theobald Smith (1859-1934) of the U. S. Department of Agriculture made a most significant contribution. They showed that killed cultures of certain bacteria could also induce immunity in the animal body against live virulent organisms in doses fatal to unprotected control animals. The way was thereby opened to the large-scale development of protective vaccines against such diseases as cholera, typhoid and plague.

[illegible] Yersin (1863-1943), working in Pasteur's laboratory, in the meantime were studying the diphtheria bacillus. In 1888 they announced that this organism produced a soluble toxin in fluid cultures. This toxin could be separated from the bacteria by filtration and would produce symptoms of the disease in suitable experimental animals. In 1890 Emil Behring (1854-1917) and S. Kitasato (1852-1931), working in Berlin, demonstrated a toxin produced by the tetanus bacillus. Almost immediately these same investigators found that when such toxins were injected into animals in sublethal doses, neutralizing antibodies or antitoxins were, after a certain period, detectable in the blood. This was a discovery of major importance, since it made possible the control of two diseases important to the surgeon, diphtheria and tetanus. Tetanus, once the dread of the military surgeon, is no longer a problem.



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Alongside of these discoveries came the announcement in 1883 of the theory of phagocytosis by Elie Metchnikoff (1845-1916), another of Pasteur's associates. He showed experimentally that the white corpuscles in the blood play a significant role in ridding the body of invading bacteria and similar foreign bodies. This same idea had, as a matter of fact, been voiced earlier (1881) by George Miller Sternberg (1835-1915), then a Surgeon in the United States Army, later its Surgeon General. The discovery of the function of the white blood cells in defending the body against microbes gave the surgeon yet another weapon in his war against infection.

Finally, another discovery stemming from early work in the new science of immunology was the recognition of the blood groups in 1900 by Karl Landsteiner in Vienna. Safe blood transfusions were now possible, and the number of lives saved by this procedure in the past half century or so is almost beyond calculation.

Space does not permit a discussion of the role of chemotherapy and the antibiotics in the conquest of the "invisible world." I can only recall to the reader's mind that, during the years often called the "Golden Age of Bacteriology," the aniline dyes, which through th ng
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1915), turned into potent we
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years immediately following came the fantastic development of the antibiotics, one of the first of which—penicillin—had been described by Sir Alexander Fleming (1881-1955) in 1929.

In summary, we have seen how surgery—a manipulative art—has advanced in four major movements, like a sailor climbing a rope. First, the surgeon, following the example of Vesalius, learned to know anatomy by studying it with his hands. Second, from William Harvey he learned physiology, again by studying with his hands (experimentally) how the parts of the body work. Third, anesthesia gave him control of pain, so that his hands could more safely and easily perform his operations. Fourth, from Pasteur, Cohn, Koch, Lister, Halsted and many others, he learned how to handle infectious agents and either keep them out of the body or destroy them after they got in.

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New Books

BOOKS RECEIVED

The following books have been received by the Editor; they will be reviewed critically as space and facilities permit. Omission of more extended review, however is not to be taken as criticism of the merit of the book.

Basic Surgery. Edited by Leslie Oliver. Springfield, Ill.: Charles C Thomas, Publisher, 1959. Pp. 1,359, with 680 illustrations, including 4 color plates.

Orthopaedics: Principles and Their Application. By Samuel L. Turek. Philadelphia: The J. B. Lippincott Company, 1959. Pp. 906, with 600 illustrations.

The Surgeon's Tale: The Store of Modern Surgery. By Robert G. Richardson. New York: Charles Scribner's Sons, 1959. Pp. 278, with 45 illustrations.

History of American Medicine (MD International Symposia). Edited by Felix Marti-Ibanez. New York: MD Publications, 1959. Pp. 181.

Congenital Anomalies of the Hand and Their Surgical Treatment. By Arthur Joseph Barsky. Springfield, Ill.: Charles C Thomas, Publisher, 1958. Pp. 165, with 76 illustrations. *Reviewed in this issue.*

Surgery of the Stomach and Duodenum. By Claude E. Welch. Chicago: The Year Book Publishers, 1958. Pp. [illegible], with [illegible] illustrations by [illegible] M. Miller. *Reviewed in this issue.*

Spinal Cord Compression. By I. M. Tarlov. Springfield, Ill.: Charles C Thomas, Publisher, 1957. Pp. 147, with 41 illustrations.

Le Diagnostic du Cancer d'Estomac a la Periode Utile (Diagnosis of Carcinoma of the Stomach at the Time Most Favorable for Treatment). By Rene A. Gutmann. Paris: G. Doin et Cie, 1956. Pp. 257.

Operative Surgery. Edited by Charles Rob and Rodney Smith. London: Butterworth & Co., Ltd.; Philadelphia, F. A. Davis Co., 1956. Vols. 1 and 2 of 8 (plus index). Profusely illustrated.

Pathology and Surgery of the Veins of the Lower Limbs. By Harold Dodd and Frank Cockett. Baltimore: The Williams & Wilkins Company, 1957. Pp. 462, illustrated.

Functional Bracing of the Upper Extremities. By Miles H. Anderson. Springfield, Ill.: Charles C Thomas, Publisher, 1958. Pp. 463. Illustrated.

The Handicapped. By Adolph A. Apton, M.D. New York: The Citadel Press, 1959. Pp. 124. *Reviewed in this issue.*

Injuries and Surgical Diseases of the Ischium. By Henry Milch. New York: Paul B. Hoeber, Inc., 1959. Pp. 163, with 106 illustrations. *Reviewed in this issue.*

That the Patient May Know. By Harry F. Dowling and Tom Jones, assisted by Virginia Sarter. Philadelphia: W. B. Saunders Company, 1959. Illustrated. *Reviewed in this issue.*

The Clinical Management of Varicose Veins. By David W. [illegible] Barrow. New York: Paul B. Hoeber, 1957. Pp. [illegible], with [illegible] illustrations.

Injuries and Surgical Diseases of the Ischium. By Henry Milch. New York: Paul B. Hoeber, Inc., 1959. Pp. 163, with 106 illustrations.

So far as this reviewer has been able to learn, this monograph is the first book to be devoted entirely to injuries and diseases of the ischium. Some of the illustrations are clearly reproduced, but others are blurred. The text itself is concisely written and clearly printed.

The author, Dr. Henry Milch, is Attending Orthopaedic Surgeon at the Hospital for Joint Diseases, New York City. He has written and published many articles about orthopedic problems and technics.

Milch points out in the preface of this book that pathologic processes in the ischium frequently produce symptoms in an area removed from this bone, leading to erroneous diagnoses of coxalgia or herniation of an intervertebral disc in the lumbar portion of the spine. Chapter 1 describes the anatomy of the sacrum; Chapter 2, physical and roentgen examination. The remaining chapters describe various diseases of and injuries to the ischium, together with their diagnoses and treatment, including osteochondritis, fracture, developmental or congenital deformities, osteitis of the ischium, pyogenic and tuberculous osteomyelitis, ischial bursitis and tumors. Surgical treatment of the ischium is also covered.

—EDWARD L. COMPERE, M.D.

That the Patient May Know. By Harry F. Dowling and Tom Jones, assisted by Virginia Samter. Philadelphia: W. B. Saunders Company, 1959. Illustrated.

The man who said "One picture is worth ten thousand words" was right, and the truth of his statement is well exemplified in the work of Tom Jones in making the illustrations for this text. For this is primarily a "picture book," although the text is supplied by an eminent author. The book, designed for the use of physicians in explaining medical situations to their patients, is beautifully put together. Diagrams in two and three colors illustrate the anatomic aspects of various diseases. The legends are clear and concise, in terms that the layman can readily understand.

Other text is at a minimum. Each section has a brief introduction explaining the problem at hand. The diagrams and legends tell the patient what he wants to know and what he should know about his particular ailment. There are 90 full-page sets of diagrams, and subject matter ranges from nutrition, metabolism and growth through infections, the respiratory tract, the cardiovascular system, the blood, the gastrointestinal system and abdomen, the genitourinary system, the musculoskeletal system, the nervous system and other miscellaneous topics.

The book is intended to aid the doctor or the nurse in putting the patient at ease, and is not, the authors warn, to be studied by the patient alone. The basic idea is that the patient will suffer less and cooperate more if he understands his situation. The volume is therefore a teaching tool, and the authors further recommend that the diagrams (complete with legends) be reproduced on lanterm slides or enlarged photographically for lecture purposes.

This is a book every practitioner—physician or surgeon—should own, and use daily.

—MAX THOREK, M.D.

Surgery of the Stomach and Duodenum. By Claude E. Welch. Chicago: The Year Book Publishers, 1958. Pp. 405, with 83 illustrations by Muriel M. Miller.

This is the third edition of this handbook of surgery of the stomach and duodenum. The previous editions have been augmented by additional sections on portal hypertension and the surgical treatment of its complications.

The contents are invaluable in their brief, succinct and thorough manner of step-by-step elucidation. The illustrations are excellently integrated with the text and are placed so that the details of the steps of an operation and the numerous, more popular variations directly face each other, depicting every phase of the procedure.

The section on portal hypertension deals with various complications and surgical emergencies, such as bleeding from esophageal varices, ascites and acute gastrointestinal bleeding. The technic of portal systemic shunts is described, with integrated diagrams on the page opposite the text.

This excellent handbook should be among every doctor's *essential books*. The stomach and duodenum are studied, anatomically, historically, congenitally, surgically, pathologically, preoperatively and postoperatively, from every standpoint.

—JEROME J. MOSES, M.D.

The Handicapped. By Adolph A. Apton, M.D. New York: The Citadel Press, 1959. Pp. 124.

This concise book, written for the laity, represents a follow-up study of the last chapter of the author's previous work "Your Mind and Appearance: A Psychological Approach to Plastic Surgery" which is entitled "The Public versus the Malformed Person." Its aim is to acquaint people with the physical and psychological problems of the physically handicapped and to stimulate the nonhandicapped to accept the disabled person as a normal member of society.

After a short review of the history of the handicapped and of preventive medicine from ancient times to the present, the manifold difficulties of the disabled and their guidance from childhood to adulthood are discussed. An analysis of prejudice is followed by a description of education of the handicapped at home and at school. Vocational guidance and human relations are taken up in the last two chapters. Historical facts, quotations from the world literature and from national magazines and newspapers, and human interest stories are interspersed throughout the text. Physical handicaps of famous personalities of all times, as well as patients' case histories, are reported briefly to illustrate the fact that such handicaps [illegible] not be a deterrent to a useful, productive and happy life.

The little book is written in a fluent and instructive way, easily understandable to the layman. It not only makes for interesting reading but doubtless will serve its purpose fully. The author is to be commended highly for having handled the broad aspects of this timely and complex topic in an unusually impressive, factual and enlightening manner. Here is a splendid individual contribution to the unremitting efforts of United Nations' Specialized Agencies and of numerous international nongovernmental organizations toward the goal of complete rehabilitation of all handicapped persons. Education through information of young and old alike is a major prerequisite for achieving general equality for the disabled in our society and time. The widest possible circulation of this book among the public at large and those in social or professional contact with physically handicapped citizens appears essential and would be most welcome in the interest of public health.

—ERNEST G. ABRAHAM, M.D.

Congenital Anomalies of the Hand and Their Surgical Treatment. By Arthur Joseph Barsky. Springfield, Ill.: Charles C Thomas, Publisher, 1958. Pp. 165, with 76 illustrations.

The author of this compact monograph is an attending surgeon for plastic surgery, Mount Sinai Hospital, New York City, and Professor of Clinical Surgery, Albert Einstein College of Medicine, New York City. He holds many other hospital appointments. This small book includes a brief discussion of the causes of congenital anomalies, a chapter on the influence of heredity in transmitting these deformities from one generation to another, a discussion of embryology, and descriptions of the diagnosis and treatment of both simple and complex congenital deformities of the hand. All who must be called upon to diagnose and treat such deformities [illegible] of the book.

—[illegible] M.D.

An Atlas of Surgery. By F. Wilson Harlow. New York: Grune & Stratton, 1958. Pp. 363, with 1,292 illustrations.

Dr. Harlon has compiled an atlas as a visual aid in remembering the reasons underlying surgical practices. This work is intended as a supplement to standard texts. The format is interesting and utilitarian, in that photographs are correlated with line drawings and terse comments to depict a condition or procedure. For special commendation must be mentioned Section Two, *Urology*, and Section Three, *Gynaecology*. "An Atlas of Surgery" should prove a useful adjunct for students both of medicine and nursing and as a source of quick reference for ward nurses and "old grads" returning to help in this day of nursing shortages. This book can be recommended.

—P. THOREK, M.D.

Practical Blood Transfusion. By J. D. James. Springfield, Ill.: Charles C Thomas, Publisher, 1958. Illustrated. Pp. 187.

Dr. J. D. James is Director of the North London Transfusion Service, where, it is said, the standard of blood transfusion is the highest in the world. His unit is one of the largest centers of the National Transfusion Service, the latter reaching every part of England.

This text is therefore authoritatively written, from the author's own experience. It deals with all phases of the problem—the donor; the indications for transfusion; equipment and technics; treatment and reactions, and the hazards and legal aspects of transfusion. The recognized quality of his own service makes Dr. James' contribution invaluable, especially to hospital personnel. It goes without saying that every surgeon should be conversant with his work.

—M. T.

The Medical Secretary. By Kenneth B. Coffin and R. Forrest Colwell. New York: The Macmillan Company, 1959. Pp. 391.

One of the important "jobs behind the doctor" is that of his secretary, who is at the same time his business manager and his public relations representative. Her work is so specialized that many business schools have set up courses in medical stenography, office procedures, etc.

This text is really such a course, prepared for workers in the medical, hospital or dental office. A thorough analysis of each job situation is presented, with modern business procedures, work outlines and vocabulary drills. The unusual value of the book is in the presentation of the material in lesson form, with review questions and practice assignments. It can serve, therefore, as a classroom text or a "self-education" tool, invaluable in either circumstance.

—O. C.

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Rapid shallow respiration denotes inflammation and pain in the vital parts: slow deep respiration indicates delirium or a seizure. Cold breath is a sign of death; so also is feverish and smoky breath, but less so than cold. Prolonged expiration and a small inspiration, short expiration and prolonged inspiration, are the worst kinds and nearest to death.

—*Hippocrates*

Abstracts from Current Literature

Hiatus Hernia: Its Incidence and Cinical Significance. Hafter, E., German Med. Monthly 3:1 (Jan.) 1958.

The radiologic aspects, the symptoms and the treatment of hiatus hernia are presented, on the basis of the observations in 300 cases. A characteristic triad of symptoms was noted: those localized to the retroxiphoid or epigastric region, those due to incompetence of the cardia and those due to secondary esophageal involvement. All these symptoms are dependent on posture; recumbency or an increase in intraabdominal pressure produces the symptoms, while an upright position results in their disappearance.

To obtain radiologic evidence of a hiatus hernia, the terminal portion of the esophagus should be filled with contrast medium, the patient being recumbent and exhaling, and entry of the hernia through the hiatus assisted by special positioning of the patient or by raising the intraabdominal pressure.

The incidence of hiatus hernia among the author's patients with upper abdominal symptoms was about 10 per cent, ranking third behind cholelithiasis (18 per cent) and duodenal ulcer (13 per cent).

In most cases the symptoms first appeared after the age of 50 years, but the diagnosis was often not made until several years later. In half of the cases hiatus hernia was associated with other diseases, most frequently cholelithiasis and gastrointestinal diverticulosis.

Treatment should be medical in most cases. It consists of instructing the patient to lie in a propped-up position at night and to avoid heavy evening meals, and of administering antacids, antispasmodics and sedatives.

The only indications for operation are hemorrhage, severe stenosing esophagitis and failure to respond to intensive conservative treatment in patients with very severe symptoms. The operative results are not always good and depend largely upon the skill of the surgeon and the [illegible]. The methods of Allison and Sweet are usually adopted. A restoration of the angle of His by esophagogastropexy appears to be particularly important to the successful result of the operation. The abdominal approach has been employed in recent years, especially for thin patients, as it seems to be less disturbing to them. No final opinion can be offered at this time on a simple technic of gastropexy to the anterior abdominal wall.

Of the author's 300 patients, 25 (8.3 per cent) underwent surgical treatment. The postoperative results in 19 patients operated upon by the thoracic approach were as follows: 8 patients were free of symptoms, 5 improved and 6 not improved. Of 6 patients operated upon by the abdominal route there were 5 free of symptoms and 1 not improved.

Other reports also show unsatisfactory postoperative results in between 25 and 35 per cent of the cases.

The diagnosis of hiatus hernia is still missed too frequently.

—Ernest G. Abraham, M.D.

Urinary Diversion with Bladder Substitution. Brunschwig, A., and Greenman, R. B., Surgery 45:240-250, 1959.

The authors review the several methods available for diversion of urine and the construction of a substitute for the bladder.

The various procedures will not be mentioned, since all surgeons are well acquainted with the advances made in this field over the past several years.

The conclusion of the authors is that no hard and fast recommendations can be made as to the choice of a procedure for bladder substitution. The choice depends on the surgeon's preference, the patient himself, his social status, the family's attitude, the prognosis [illegible] after the [illegible] of medical experience.

[illegible]

Extramammary Paget's Disease. Grimes, O. F., Surgery 45:569, 1959.

Two cases are presented which lend support to the thesis that Paget's disease represents secondary malignant intracutaneous spread from underlying primary carcinoma. The primary tumors were adenocarcinoma of the anal canal, and special stains showed material in Paget's cells similar to that in the underlying carcinoma. It is probable that Paget's disease represents merely an unusual mode of spread to the skin along established lymphatic pathways.

EDMUND LISSACK, M.D.

The Source of Bleeding in Acute Subdural Hematoma. Klingler, M., and Schultheiss, H. R., German Med. M. 3:183 (June) 1958.

Intracranial hemorrhages following head trauma are classified as epidural, subdural and subarachnoid. Subdural hematomas may occur acutely in the first days following trauma, or chronically after a latent period of several weeks. In contradistinction to these two forms, the subarachnoid hemorrhages, which generally accompany cerebral contusions, are not accessible to surgical treatment.

The clinical symptoms of epidural and acute subdural hematomas are almost identical. Their chief characteristic is progressive, especially mental, deterioration. Since the mental symptoms are more common and reliable than the neurologic manifestations, such as progressive hemiparesis and unilateral pupillary dilation, each patient with progressive loss of consciousness following an accident should be suspected of having a hematoma.

The source of the bleeding varies with the three types. Epidural hematoma is usually the result of an injury to the middle meningeal artery. The chronic subdural hematoma seems to originate most commonly from the veins that bridge the subdural space from the cerebral cortex to the sagittal sinus. The acute form, however, occurs in cases of severe injury to the skull with extensive cerebral contusion. Generally it is localized more laterally than is the chronic subdural form and does not extend to the superior sagittal sinus.

Four cases are reported. In those with severe head trauma and cerebral contusions leptomeningeal vessels were torn in addition to the arachnoid. In cases without severe damage to the brain tissue a punctate defect in a leptomeningeal vessel occurred, probably as a result of sudden impact against the calvarium.

It is concluded that no single source of bleeding exists which is common to all acute subdural hematomas. Moreover, the site of origin occasionally cannot be found.

ERNEST G. ABRAHAM, M.D.

Conservatism in Obstetrics. Stallworthy, J., Northwest Med. 57:867, 1958.

Conservatism in obstetrics is instinctively contrasted with what one imagines to be the radical approach. One man, having assessed the problem of a high head at term in a primigravida, says "Nature can deal with this," while a colleague, reviewing the same problem, decides that the knife and not nature must prevail. The one is considered conservative, the other radical; but to accept this classification without knowing what happened to the patient would be to oversimplify the position. Generally speaking, one cannot with justice label a man radical or conservative by his handling of isolated selected cases for which one has had no clinical responsibility. It is easy to be wise and infallible when the final decision is not one's own. The general pattern of a man's practice is found only in a comprehensive survey of his work.

The subject of conservatism in obstetrics is wide, but the selected examples given in this study, and the lessons learned from them, must suffice. In the last fifty years technics have changed, often dramatically, to the great advantage of mother and baby. Neither the conservative nor the radical attitude has consistently yielded rich dividends, but each in its time and place has contributed to progress. Contrary to what is often said and written, obstetrics can still be an art for those who wish to practice it as such. General principles can be a guide, but in art there is infinite opportunity for self-expression linked with a constant striving for perfection. When this desire is nurtured, we need not fear the future.

EDMUND LISSACK, M.D.

Experiences with the Surgical Treatment of Aneurysms of the Abdominal Aorta. Mahaffey, J. H., J. of Kentucky State M. A. 56:1103, 1958.

Nonruptured Abdominal Aortic Aneurysms.—Briefly, the surgical technic used is described. The aneurysm is resected, and continuity of flow is reestablished by the insertion of a bifurcated abdominal aortic homograft or a suitable vascular prosthesis. A long midline incision extending from the xiphoid process down to the symphysis pubis is employed. The small intestine is eviscerated onto the right side of the abdomen and covered with warm moist packs. The posterior peritoneum overlying the aneurysm is incised to the left of the root of the mesentery of the small intestine, as in the ligament of Treitz. The inferior mesenteric artery is divided at its point of origin. The aorta proximal to the aneurysm is mobilized by blunt dissection and encircled with umbilical tapes, after which distal control of the iliac vessels is obtained. Ten mg. of heparin solution in saline is injected into the aneurysm, and vascular clamps are applied proximal and then distal to the aneurysm.

The aneurysm is excised from below upward, with division of the lumbar vessels, which subsequently are ligated. Depending on the ease with which they may be approached, occasionally some of the lumbar arteries are ligated and divided prior to occlusion of the aorta. Continuity of flow is restored by the insertion of a reconstituted freeze-dried aortic homograft or a vascular prosthesis that has been soaked in some of the patient's blood to pre-clot, thus minimizing leakage through the graft.

The proximal anastomosis is carried out with a continuous through-and-through suture, begun posteriorly, of No. 000 intestinal silk. The distal anastomosis is completed in a similar fashion with No. 0000 arterial silk. After completion of one iliac anastomosis the opposite iliac portion of the graft is clamped, and circulation is reestablished to the completed side, thus minimizing the duration of occlusion of that side.

After satisfactory restoration of flow, the posterior peritoneum and the ligament of Treitz are approximated. In the last few cases, because of the ileus commonly associated with the procedure, a gastrostomy has been done, with use of a Foley catheter with a 30 cc. bag. This obviates the need of a Levine tube, necessary for four or five days, with its attending discomfort, impairment of the cough reflex, and increase in the incidence of respiratory complications. The abdominal incision is closed in layers, as well as with retention sutures of No. 5 silk placed through all layers except the peritoneum.

The period of total aortic occlusion in this group varied from sixty-eight to one hundred and five minutes, with an average of eighty-seven minutes.

Every patient survived elective resection of the aneurysm and is in excellent condition as far as the operation is concerned.

Ruptured Abdominal Aortic Aneurysms.—Prompt and early surgical intervention, resection of the ruptured aneurysm and restoration of continuity of flow with an aortic homograft or a suitable vascular prosthesis can convert a hopeless prognosis into a relatively more favorable one.

WILLIAM E. NORTH, M.D.

Fistules Biliaires Internes Spontanees d'origine Lithiasique (Spontaneous Internal Biliary Fistulas Secondary to Cholelithiasis). Kourias, B. and Tsoufis, E., J. de chir. 75:353, 1958.

The authors review 65 cases of internal biliary fistula operated upon in the surgical clinic of the Greek Red Cross Hospital between 1937 and 1957. In 21 cases (0.7 per cent) the fistula was secondary to duodenal ulcer and in 44 cases to cholelithiasis. Of the latter, 32 were biliodigestive and 7 biliobiliary fistulas.

This study was mainly concerned with fistulas secondary to cholelithiasis. Roentgen studies were helpful in making the diagnosis in 20 to 30 per cent of the cases. When the fistulas were [illegible]

[illegible]

nection with the gastrointestinal tract. The operations performed for these fistulas consisted of cholecystectomy, choledochostomy and choledochoduodenostomy, as well as hepaticojejunostomy with a Roux en Y anostomosis. The mortality rate, 12.5 per cent, was rather high, owing to the poor condition of the patients who suffered often from recurrent cholangitis and hepatic cirrhosis.

As to the biliobiliary fistulas, they were encountered in 7 cases. Roentgen studies, including preoperative cholangiograms, were not very helpful. It was only by careful surgical technic that the fistulous tract was visualized.

The authors advocate use of the antegrade method of resection of the gallbladder, as well as the endovesicular route of examination of the biliary tree to prevent injury thereto. When there is a large fistula, with loss of substance of some of the hepatic or common bile ducts, they advise using part of the wall of the gallbladder for closure of the defect.

S. ATTAR, M.D.

Congenital Choledochal Cyst, with a Report of 2 and an Analysis of 94 Cases. Alonzo-Lej, F., Rever, W. B. Jr., and Pessagno, D. J., Internat. Abst. Surg. 108:1, 1959.

Four hundred and three authentic and 16 doubtful cases of congenital choledochal cyst are collected from the world literature. Ninety-four are newly analyzed, and 2 new cases are reported.

The disease is congenital. The cause is a weakness in a specific portion of the common bile duct, caused by hyperproliferation and hypervacuolization of that area during embryonic development. Such a weakness constitutes a protodilatation status, which develops into the clinical pathologic entity when the ductal pressure increases because of an obstructive factor.

A classification is presented, showing three types: cystic dilatation, diverticulum and choledochocele.

Pain, jaundice and mass are the classic diagnostic triad. Intermittence of these symptoms increases the probability of congenital cystic dilatation. Jaundice is absent in the diverticular type. In the presence of choledochocele a mass is absent, but nausea or vomiting is always present.

The Japanese race and the female sex seem to be affected particularly. Eighty-two per cent of the patients in this study were under 30 years of age.

Differential Diagnosis.—Conditions to be considered are as follows: hydatid cyst; cholelithiasis; congenital atresia; congenital cysts of the liver; Wilms tumor and other retroperitoneal neoplasms; carcinoma; sarcoma; carcinoma of the ampulla of Vater or head of the pancreas, and pancreatic cyst.

Removal of the cyst with anastomosis of the remaining biliary tree to the duodenum or jejunum is the authors' treatment of choice. Choledochocystojejunostomy has low mortality and morbidity rates and is considered an adequate procedure. Choledochocystoduodenostomy has a higher morbidity rate.

Each succeeding review of the literature shows a significant increase in the number of cases reported and in the number of accurate preoperative diagnoses. There has been, also, a decrease in the operative mortality rate and a tendency toward removal of the choledochal cyst as the treatment of choice.

WILLIAM E. NORTH, M.D.

Carcinoma of the Endometrium. Pentecost, M. P. Jr., and Brack, C. B., Southern M. J. 52:190, 1959.

This article describes a series of 115 patients with adenocarcinoma of the endometrium, treated at the Johns Hopkins Hospital between 1940 and 1950 inclusive.

Patients who were good operative risks were treated with intracavity radium irradiation followed by conservative total hysterectomy, and poor risks by irradiation alone. A small group of patients was treated by conservative hysterectomy alone.

The five-year salvage rate is 63.8 per cent in the group treated with irradiation and hysterectomy; 61.5 per cent in the group treated by hysterectomy only, and 32.3 per cent in those treated by irradiation only.

When the carcinoma is completely eradicated by preoperative radium irradiation, the salvage rate is 79.2 per cent as compared to 50 per cent when persistent tumor is present in the operative specimen.

EDMUND LISSACK, M.D.

Total Bilateral Polyvinyl Ureteral Substitutes in the Dog. Ulm, A. H., and Lo, M. C., Surgery 45:313-319, 1959.

Many ureteral substitutes have been tried in the past. Some of these have been viable and nonviable veins, arteries, fascia, rolled bladder wall, skin tubes and ileum, and prostheses, such as vitallium, tantalum and polyethylene.

The inert materials have been unsuccessful, owing to migration of the prosthesis and encrustation by urinary salts.

These authors have experimented on 10 dogs, using polymerized polyvinyl tubing as the substitute ureter.

Their results show that, in the dog, a motile conduit is not needed between kidney and bladder. Three dogs lived more than one year, and their pyelograms showed no renal damage. Encrustation occurred in only 1 animal. The flanging technic in the placement of the tube prevented its migration.

The authors conclude that this technic is suitable for dogs, but the material used is unsuitable for use in man.

SHEPARD JEROME, M.D.

Intra-aortic Nitrogen Mustard Therapy in Advanced Pelvic Malignancy. Byron, R. L. Jr., Singh, B. P., Bierman, H. R., and Kelly, K. H., Surgery 45:634, 1959.

Thirty-four patients with hopelessly incurable pelvic malignant disease were treated with intra-aortic HN_2 in doses ranging from 0.2 to 1.6 mg. per kilogram of body weight. Of this series, 31 were subjected to an exploratory laparotomy and intra-aortic administration of the drug, with venous occlusion at the time of operation. The remaining 3 patients were treated by administration of the drug through an indwelling intra-aortic catheter.

Seven patients showed objective improvement. There were 3 postoperative deaths.

In the authors' hands, arterial HN_2 therapy proved to have some significance in the palliation of advanced pelvic malignant disease. They believe that patients who have malignant tumors that are localized to the pelvis and are not amenable to operation or irradiation are suitable for intra-aortic nitrogen mustard therapy.

EDMUND LISSACK, M.D.

It has been established repeatedly by subsequent laparotomy that a gastric or duodenal ulcer, treated medically before it has reached the stage of a fibrous lesion involving all the coats, may heal without leaving a scar visible to the naked eye. Even a larger and more chronic ulcer may heal, and remain healed if the social economic and dietetic factors that caused it can be eliminated. Such a result is infinitely better than that achieved by surgical treatment, good though this may be, for all operations designed to remove the ulcer and its cause imply a perfect and permanent [illegible] of the [illegible] of digestion. It deals with [illegible] which has [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

IMPORTANT ANNOUNCEMENT

Contributors of scientific articles for publication in The Journal of the International College of Surgeons from Europe, the Near East and the Middle East should send their articles to:

European Office of the
International College of Surgeons
6-8 Rue de la Confederation
Geneva, Switzerland

A special committee has been appointed to evaluate the papers submitted for publication. The Journal publishes summaries in English, French, German, Spanish, Italian and Portuguese. Summaries of articles should be included in as many of these languages as possible.

AVIS IMPORTANT

Les auteurs d'articles scientifiques destinés à être publiés dans le Journal du Collège international de chirurgiens sont priés d'adresser leurs articles à l'adresse suivante pour l'Europe, le Proche et le Moyen Orient.

Bureau Européen du
Collège international de chirurgiens
6-8 rue de la Confédération
Genéve (Suisse)

Un comité a été nommé pour l'examen des articles à paraître. Les auteurs sont priés de joindre à leur travail de brefs résumés en français, anglais, allemand, espagnol, italien et portugais si possible.

The following pages comprise

Section II

the BULLETIN

of the

Journal

of the

International College of Surgeons

GENÈVE
'35
COLLÈGE INTERNATIONAL DE CHIRURGIENS

FOUNDED BY DR. MAX THOREK

Twenty-Fourth Annual Congress
North American Federation
International College of Surgeons

Palmer House

Chicago, Illinois September 13-17, 1959

The North American Federation Comprises

CUBA
HAITI
GUATEMALA
HONDURAS

THE UNITED STATES OF AMERICA
CANADA
THE UNITED STATES OF MEXICO

EL SALVADOR
NICARAGUA
COSTA RICA
PANAMA

Those Desiring to Present Papers
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International College of Surgeons
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Chicago 10, Illinois

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RESERVATIONS SECRETARY
International College of Surgeons
1516 Lake Shore Drive
Chicago 10, Illinois

To Report
News Items Concerning Section and Regional Activities
address
NEWS DEPARTMENT
International College of Surgeons
1516 Lake Shore Drive
Chicago 10, Illinois

The Journal of the International College of Surgeons

Vol. 32, No. 2 SECTION II August, 1959

BULLETIN

Embodying Activities of the World Federation of General Surgeons and Surgical Specialists, Section News and Comments

Editor-in-Chief—MAX THOREK, M.D.
Associate Editor—PHILIP THOREK, M.D.
Consulting Editor—MORRIS FISHBEIN, M.D.
Assistant Editors—DOROTHY LANGLEY AND HELEN WEISS

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Schedule of Meetings

INTERNATIONAL COLLEGE OF SURGEONS

1959

August 19-20 Vienna, Austria	Austrian Section International College of Surgeons
August 22-23 Munich, Germany	German Section International College of Surgeons
August 25 Paris, France	French Section International College of Surgeons
October 18-24 Poços de Caldas, Brazil	Brazilian Section International College of Surgeons
September 28-29 Chattanooga Tennessee	Tennessee State Chapter U. S. Section, International College of Surgeons
September 30-October 4 Guayaquil, Ecuador	Ecuador Section International College of Surgeons
October 30 Hong Kong, China	China—Hong Kong Section International College of Surgeons
November 2 Tokyo, Japan	Japan Section International College of Surgeons
November 2 Bangkok, Thailand	Thailand Section International College of Surgeons
November 16-18 Hot Springs, Virginia	Mid-Atlantic Sectional Meeting U. S. Section, International College of Surgeons
December Taipei, Taiwan (Formosa)	China—Formosa Section International College of Surgeons
December Jaipur (Rajasthan) India	India Section International College of Surgeons

(Continued on next page)

Schedule of Meetings

(Continued from preceding page)

INTERNATIONAL COLLEGE OF SURGEONS

1959

TWENTY-FOURTH ANNUAL CONGRESS

North American Federation

(Canada, Mexico, U. S., Central American and Caribbean Sections)
International College of Surgeons
SEPTEMBER 13-17
PALMER HOUSE CHICAGO, ILLINOIS

AROUND-THE-WORLD
POSTGRADUATE CLINIC TOUR
October 10 - November 28
DR. EDWARD L. COMPERE COORDINATOR

1960

TWELFTH BIENNIAL INTERNATIONAL CONGRESS
International College of Surgeons
Under the Auspices of
HIS EXCELLENCY THE PRESIDENT OF THE REPUBLIC OF ITALY
PROF. DR. PIETRO VALDONI CONGRESS PRESIDENT
MAY 15-18 ROME, ITALY

THE HON. LISTER HILL

UNITED STATES SENATOR FROM ALABAMA

Convocation Orator

Twenty-Fourth Annual Congress

North American Federation of the International College of Surgeons

Twenty-Fourth Annual Congress
North American Federation
International College of Surgeons

Comprising

THE UNITED STATES OF AMERICA, CANADA, THE UNITED STATES OF MEXICO, CUBA, HAITI, GUATEMALA, HONDURAS, EL SALVADOR, NICARAGUA, COSTA RICA AND PANAMA

September 13-17, 1959

Palmer House **Chicago, Illinois**

Plans for the Twenty-Fourth Congress of the North American Federation of the International College of Surgeons, at first nebulous and general, have through months of persistent dedicated work on the part of the program committees developed into a program of exceeding importance.

Specialty sessions of almost unprecedented scientific exactitude will critically evaluate the present status of each discipline and explore the horizon for promising innovations. The general sessions, equally pragmatic in their approach, will rival each other in brilliance of presentation. We are confident that each congressist will find every general assembly a major attraction and a most rewarding experience.

Senator Lister Hill
Convocation Orator

We are proud to announce that **Lister Hill**, the distinguished United States Senator from Alabama, will deliver the Con- [illegible]

edged leader in Congress in the field of health and medicine. He is, furthermore, in a strategic position for getting congressional action on health and medical projects effectively enacted and implemented, for he is chairman not only of the Senate committee that has jurisdiction over all legislation on public health, medical research and hospital and training programs but also of the Senate appropriations committee. Since he assumed the chairmanship of the committee which handles appropriations, he has exerted his influence to direct adequate funds for essential health and medical services.

Enviable Record as Leader
In Medical Legislation

Senator Hill has been a major influence in providing positive legislative action on four great fronts in our war against death and disease. These are:

The Hospital and Health Center Construction Act, which has brought more than four thousand hospitals, health cen- [illegible] nation's medical schools and research institutions;

Training and education programs to provide needed health and medical research personnel, and

Preventive medical programs against communicable and environment-caused disease.

During the last year under Senator Hill's leadership these programs have been accelerated and their scope greatly enlarged. Increased attention is being given to the care and treatment of the mentally ill and to the problem of rehabilitation of physically and otherwise handicapped people.

Looking to the future, Senator Hill now is moving to coordinate and strengthen world-wide medical research through a proposed International Medical Research Plan.

The potentialities of the plan stir the imagination. Fellows of the International College of Surgeons, oriented in the world view of science and convinced of the futility of small plans and provincial prejudices, welcome Senator Hill as a statesman who puts into action the now probably realizable hope of mankind to be free of preventable disease and to provide effective and humane management of those infirmities which are perhaps the inevitable concomitants of our lives. Such statesmanship cannot but have the widest repercussion. It can lead to nothing but the universal good.

Distinguished Participants from Abroad

The list of notable surgeons from outside the North American Federation who will appear on the scientific program of the Congress is growing.

The July issue of the *Bulletin* presented brief sketches of some of the participants. We spoke of **Prof. Dr. Sten A. Friberg,** distinguished orthopedic surgeon of Stockholm, Sweden, who will deliver the 1959 Herbert Acuff Memorial Lecture and speak at the Convocation in addition to presenting a paper before the orthopedic section.

We spoke of the four famous surgeons—**Prof. Dr. Jean Creyssel** of Lyons, **Prof. Dr. Raymond Darget** of Bordeaux, **Dr. Pierre Jean Viala** and **Dr. Andre Thomas,** both of Paris—who are coming from France. We announced that **Dr. Hajime Imanaga** of Nagoya will represent Japan and **Dr. José Ramírez D.,** founder and vice-president of the Ecuador Section will be with us.

Surgeons from England To Address Specialty Sessions

We were proud that **Dr. C. P. Wilson** of London would address the otorhinolaryngologic sessions of the Congress. We are now happy to add that **Mr. John Swinney,** M.D., M.S., F.R.C.S. (Eng.), of Newcastle upon Tyne, England, will also be here.

Mr. Swinney is lecturer in urology at the Medical School of King's College, University of Durham, surgeon-in-charge in the department of urology at Newcastle upon Tyne General Hospital and urologist at the Hospital for Sick Children.

Mr. Swinney will present a paper, *The*

Dr. Pierre Jean Viala
Paris, France

Treatment of Stricture of the Urethra and Its Sequelae, with slides, some of which will be in color, in the afternoon of Tuesday, September 15.

We also are pleased to confirm that Prof. Dr. Esteban D. Rocca, F.I.C.S., professor of neurosurgery on the Faculty of Medicine at the National University of San Marcos and chief of the section on neurosurgery of the Obrero Hospital in Lima, will be with us and present a paper on *Surgical Management of Cysticercus Cysts of the Brain.*

Prof. Hans Selye Featured Speaker

Prof. Hans Selye, M.D., Ph.D., D.Sc., F.I.C.S. (Hon.), the eminent professor and director of the Institute of Experimental Medicine and Surgery at the University of Montreal, Canada, will address the Congress on *Stress and the Adaptation Syndrome.* Prof. Selye is an acknowledged world authority upon the subject of his discourse. He was the first to use the term and describe the syndrome referred to in the title of his paper.

European born and educated in Prague, Paris and Rome, with doctorates in both medicine and chemistry and a D.Sc. from McGill University in Montreal, Prof. Selye has established a brilliant record of research in biochemistry at Johns Hopkins, McGill and the University of Montreal. He is profound, meticulous and versatile. He has published numerous books and papers mainly on endocrinology, the physiology and pathology of systemic stress and of course on the adaptation syndrome, originally described by him. Learned societies all over the world have vied with each other in conferring honors upon him. Dr. Selye is an engaging human being oblivious of the aura that his learning and his achievements unavoidably lend to his presence.

Also from Canada are **Dr. Ian W. Davidson** of Sudbury, Ontario, and **Dr. Arnold A. Grossman** of Montreal, Quebec, both of whom will present papers at the Congress.

Dr. Davidson, chief of surgery at Sudbury General Hospital and president-elect of the Canadian Orthopaedic Association, will read a paper on *Injuries of the Knee Joint,* and Dr. Grossman of the Montreal General Hospital will discuss *Treatment of Bilateral Adductor Cord Paralysis.*

Federation Leaders Among Prominent Participants

Presidents, present and past, of the constituent sections of the North American Federation will be most active participants at the Congress.

The Congress will be honored by the presence of **Dr. Henry W. Meyerding, F.A.C.S., F.I.C.S. (Hon.)**, of Rochester, Minnesota, president of the International College of Surgeons, and by the presidents of the sections comprising the Federation: **Dr. Edward L. Compere, F.A.C.S., F.I.C.S.**

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dian Section; **Dr. Arturo Chavira, F.A.C.S., F.I.C.S. (Hon.)**, president of the Mexican Section; **Dr. J. Nunez Portuondo, F.A.C.S., F.I.C.S.**, of Cuba; **Dr. Antoni Leveque, F.I.C.S.**, president of the Haiti Section; **Dr. Ricardo Aguilar Meza, F.A.C.S., F.I.C.S.**, of Guatemala; **Dr. Jose R. Duron, F.I.C.S.**, president of the Honduras Section; **Dr. Mariano Samayoa, F.I.C.S.**, president of the El Salvador Section; **Dr. Humberto Alvarado, F.I.C.S.**, of the Nicaraguan Section; **Dr. Oscar Pacheco Chaverri, F.I.C.S.**, president of the Costa Rica Section, and **Dr. Gustav Andreas Engler, F.I.C.S.**, of Panama.

Dr. Claude S. Beck
Cleveland, Ohio, U.S.A.

Dr. Curtice Rosser, M.D., F.A.C.S., F.I.C.S., of Dallas, Texas, past-president of the United States Section, will participate in the program, as will **Dr. Arnold S. Jackson, F.A.C.S., F.I.C.S.**, of Madison, Wisconsin, who preceded Dr. Rosser in the same office.

A prominent participant in the program will be the president-elect of the United States Section, **Dr. Harry E. Bacon, F.A.C.S., F.R.S.M. (Hon.), F.I.C.S.**, of Philadelphia.

Notable Participants from the United States

The general chairman of the Congress is **Dr. Alexander Brunschwig**, of New York City, clinical professor of surgery at Cornell University and chief of the gynecologic service at the Memorial Center for Cancer and Allied Diseases.

From our very newest state, Hawaii, will come **Dr. Ralph Bingham Cloward**, F.A.C.S., F.I.C.S., regent of the state, who is on the staffs of Queen's, St. Francis and Children's Hospitals in Honolulu. Dr. Cloward's presentation will be *Diagnosis and Treatment of Lesions of the Cervical Spine—A New Approach.*

From the older states of the Union we anticipate the participation of many well-known surgeons and surgical specialists.

Word has come to us that we may expect the active participation of **Dr. Claude S. Beck**, Sc.D., F.A.C.S., of Cleveland. Dr. Beck is professor of cardiovascular surgery at Western Reserve University School of Medicine, associate surgeon at the University Hospitals, chief consulting neurosurgeon at Crile Veterans Administration Hospital and cardiac consultant at Mount Sinai Hospital.

We also anticipate the presence of United States **Senator Hubert H. Humphrey** of Minnesota, himself a physician. Senator Humphrey was the Convocation orator at the 1958 Congress of the International College of Surgeons in Chicago.

Specialty Section Participants

Dr. Anthony F. DePalma, F.A.C.S., F.I.C.S., of Philadelphia, professor and head of the department of orthopedic surgery at Jefferson Medical College and attending orthopedic surgeon at Jefferson and Philadelphia General Hospitals, will take part in the proceedings of the orthopedic section.

Dr. Henry H. Kessler, F.A.C.S., F.I.C.S., of Newark, New Jersey, medical director of the Kessler Institute for Rehabilitation, will share in the work of the new section devoted to that specialty.

Dr. John S. Lundy, F.I.C.S., professor and head of the department of anesthesiology at the Mayo Clinic, Rochester, Minnesota, will discuss phases of his work of interest to all surgeons.

General Surgery

Among the outstanding surgeons who will participate in the surgical program are **Dr. William T. Lemmon**, F.A.C.S., of Philadelphia, professor of surgery at Jefferson Medical College, and **Dr. Max Simon**, F.A.C.S., F.I.C.S., of Poughkeepsie, New York, senior attending surgeon at St. Francis Hospital.

Dr. Manuel E. Lichtenstein, F.A.C.S., F.I.C.S., of Chicago, associate professor of surgery at Cook County Graduate School of Medicine, will take part in panel discussions of *Surgery of the Biliary Passages* and *Management of Sigmoidovesical Fistula*.

Scheduled Essayists Announce Titles of Their Papers

Dr. Charles P. Bailey, F.A.C.S., F.I.C.S., of Philadelphia, professor and head of the department of thoracic surgery at Hahnemann Medical College and Hospital and director of the cardiopulmonary section of the Albert Einstein Medical Center, will read a paper on *Direct Attack on Coronary Arteries in Disease*.

Dr. Virgil S. Counseller, F.A.C.S., F.I.C.S. (Hon.), of Phoenix, Arizona, emeritus professor of surgery at the University of Minnesota Graduate School, Mayo Foundation, Rochester, Minnesota, now on the staffs of St. Joseph's, St. Luke's, G[illegible] S[illegible] [illegible] and Memorial Hospitals [illegible] Phoenix, will present [illegible]

Dr. Gilbert L. Hyroop, F.I.C.S., assistant professor in the department of plastic surgery at the University of Oklahoma School of Medicine in Oklahoma City, will discuss the *Importance of Early Coverage in Treatment of Burns*.

Dr. Lloyd F. Sherman, F.A.C.S., of the proctology department at the University of Minnesota Medical School in Minneapolis, will read a paper on *The Proctologist's Contribution to Urinary Diversion*.

Dr. Virgil S. Counseller
Phoenix, Arizona, U.S.A.

Dr. Richard W. TeLinde, F.I.C.S., of Baltimore, Maryland, professor of gynecology at Johns Hopkins University and gynecologist-in-chief at Johns Hopkins Hospital, will address a luncheon session on *Indications for Pelvic Surgery* and speak before a general [illegible]

[illegible]

Extraordinary Monday Evening Session

Prof. Dr. J. André Thomas
Paris, France

On the evening of Monday, September 14, at eight, in the Grand Ballroom of the Palmer House, the Congress will stage a timely and exciting program of the widest possible interest.

One of the participants will be **Prof. Dr. J. André Thomas**, M.D., D.Sc., of Paris.

Prof. Thomas occupies a chair at the Sorbonne and is director of the cellular biology laboratory at, and a member of the faculty of, the Pasteur Institute. He has perfected an artificial heart-and-lung machine, which the French ministry of foreign affairs is transporting to Chicago to permit Prof. Thomas, with the aid of his assistant, to demonstrate before the assembly.

The other participant will be **Capt. E. E. Hedblom**, M.C., U.S.N., staff medical officer, commander of the U. S. Naval Support Force, Antarctica; head of the department of aviation medicine and cold weather medicine at the Naval Medical School, National Naval Medical Center, Bethesda, Maryland; consultant to the commandant of the Marine Corps on polar operations, and navy member of the national board for promotion of rifle practice (under the Secretary of the Army).

Capt. Hedblom will share with us an account of his Antarctic experiences—*Four Years of Operation Deep Freeze*—and a discussion of *Cold Weather Medicine—The Problems of Living in the Frigid Zones.*

Capt. Hedblom is an intriguing personality. Including himself in the definition, he says that the type of man that goes to the Poles is "egomaniac, egocentric and Ego Scout." Also, it would seem to us temperate-zone addicts, he would be a man of extraordinary emotional balance, curious as a small boy, persistent and very wise.

Strangely, but perhaps not strangely, Capt. Hedblom was born and educated far from frigid seas—in Colorado. He was graduated A. B. in zoology at Colorado

Capt. E. E. Hedblom, M.C.
U.S. Navy

College in 1935; M.D. at University of Colorado School of Medicine in 1939, and interned at City of Detroit Receiving Hospital. For special surgical training he served at Multnomah County Hospital in Portland, Oregon. He completed this internship in 1941, and that was the turning point. From then on he was in the navy.

His navy career summed up in statistics is as follows:

Naval Air Station, Tongue Point, Oregon, 1941; Section Base, Astoria, Oregon, 1942; Flight Surgeon Training, Pensacola, Florida, 1943; Fleet Marine Air Wings, Pacific, 1943-1945—Southwest Pacific; NAS Maui, 1946-1947; NAS Midway Island, 1948-1949; NAS Whiting Field, Pensacola, 1950-1951; Pacific Division Military Air Transport Service, Hawaii, 1951-1952; Surgeon Carrier Division Four on board USS Midway in the Mediterranean, 1952-1954; NAS Patuxent River, 1954-1955; Staff Surgeon Commander Naval Support Force, Antarctica, Operations Deep Freeze I, II, II, IV and V, 1955 to present.

Capt. Hedblom's present research interests are: protective glasses; vitamins A, E and C; polar air, ice, and water safety and survival.

His hobbies are varied and include photography and polar history. He is a good sportsman—a swimmer, tennis player and, most conspicuously, a phenomenal marksman. But he also plays the tuba, the "sweet potato" and the recorder. He carves in wood and paints in oils. And he says he likes traveling.

Capt. Hedblom is married. His daughter Karen, who is seventeen, is at Colorado College, and his son Erland, who is twelve, is preparing to attend the same school.

Capt. Hedblom's presentation is made while he shows his own slides. It covers four years of naval sea and ice operations with maps, planes, ships, unloading, six of the seven United States I.G.Y. bases, air drops, a polar flight, Antarctic birds and mammals; slides depicting the development of dark glasses, whiteout glasses and clothing; medical spaces and activities; sanitation and habitation studies; Scott's bases, Shackleton's base, a search and rescue operation, and pictures of some of the most beautiful scenery in the world.

Those who have seen it say it is an exciting experience.

Medical Operations and Research in Climatic and Environmental Extremes

Rear Admiral B. W. Hogan
Surgeon General, U.S. Navy

Surgeon General of the Navy, will be present and will make the opening remarks.

A native of Massachusetts, Admiral Hogan was born at West Quincy in 1901. He was graduated from Boston College High School, and had premedical instruction at Boston College. In 1925 he received the degree of M.D. from Tufts College Medical School of Boston, and was awarded the Phi Lambda Kappa Medal for highest achievement while attending medical school.

He accepted appointment as lieutenant, junior grade, in the medical corps of the Navy in 1925. He has served at naval medical department activities both continental and extra-continental, aboard combat ships of the fleet and on hospital ships. His duties at various naval hospitals have been as chief of medicine and chief of neuropsychiatry, and later as executive officer and as commanding officer.

He was selected to Rear Admiral rank in 1952, and was appointed Surgeon General of the Navy and Chief of the Bureau of Medicine and Surgery in 1955.

Admiral Hogan has been decorated by the government for his work, both in peace and in war. Among the medals and decorations awarded him are the Silver Star Medal; Navy and Marine Corps Medal; Purple Heart; Letter of Commendation; and most recently the *Medaille de vermeil,* the Medal of Honor of the French Navy Medical Service.

Adm. Hogan is married to the former Miss Grace Gloninger of Pittsburgh. They have three children, and at present they live at Quarters "A" at the National Naval Medical Center, Bethesda, Maryland.

The North American Federation of the International College of Surgeons is honored to have Admiral Hogan as its guest.

The Extraordinary Men

To some of us older men, the session will have aspects that will seem fantastic. But the men who will be taking part in it will be speaking of their daily work and of their regular professional achievements.

These are the men:

Capt. Charles F. Gell was born and educated in Chicago. He attended Lewis Institute and the Loyola University School of Medicine, graduating M.D. in 1936. He interned at Alexian Brothers Hospital, also in Chicago.

Having had previous naval service as a Radioman and Chief Radioman, he received during the summer of 1937 a commission in the Medical Corps of the U.S. Navy. Thus he began his distinguished career in the medical science associated with flight.

He studied at the Army School of Aviation Medicine, Randolph Field, Texas; the Naval Air Station, Pensacola, Florida, achieving in 1945 the designation of Naval Aviator; and the University of Pennsylvania Graduate School of Medicine, receiving the degrees of M.Sc. in 1953 and D.Sc. in 1956.

Captain Gell has made numerous and basic contributions to the literature of his specialty. He is a member of many medical, scientific and military societies.

The honors that have come to him include:

Secretary of the Navy citation for Aviation Medical Research contributions during the second World War; Fellow Aero Medical Association; award winner, John Jeffries Award for Medical Research contributions to the advancement of aeronautical sciences, Institute Aeronautical Sciences; Theodore Lyster Award, Aero Medical Association; and Melbourne W. Boynton Award, American Astronautical Society.

He is at present visiting professor of aviation physiology at the University of Pennsylvania School of Medicine and lecturer in the same subject at the University's Graduate School of Medicine.

With his background and his operational experience, Capt. Gell has an excellent perspective of the present and future aviation-space medical research requirements for success in manned space flight. His discussion on *Biological Stressors in Atmospheric and Extra-atmospheric Flight* scheduled to be given at the Congress, comprises a from-the-ground-up resumé of problems resolved and evolved relative to manned flight at the limits of the earth's atmosphere and beyond. The discussion will be accompanied by slides of significant work done in these Navy laboratories.

Prof. Dr. Dietrich E. Beischer, head of the biophysical laboratory at the U. S. Naval School of Aviation Medicine, Pensacola, Florida, will present at the symposium a fascinating account of the ex-

1933-1940) and with the University of Strassbourg, France (1941-1946).

From 1947 until the present he has been with the U. S. Naval School of Aviation Medicine in Pensacola, Florida. He was in charge of the environmental part of the joint Army-Navy project with which he deals in his presentation. His lecture will be accompanied by slides and motion pictures in both sound and color, and is entitled, *Development and Utilization of the Sealed Capsule for Primates in Outer Space.*

Howard H. Vogel, Jr., Ph.D., who will discuss the awe-inspiring subject, *Protection Against Acute Radiation Death*, is the group leader on neutron toxicity in the division of biological and medical research at the Argonne National Laboratory, Lemont, Illinois.

He was born in New York City in 1914. He was graduated A.B. *summa cum laude* from Bowdoin College in Brunswick, Maine, and received his M.A. (1937) and Ph.D. (1940) in Biology from Harvard.

He was an Austin Teaching Fellow in Biology at Harvard and at Radcliffe Colleges. In 1940 he became acting head of

the zoology department of Wabash College, Crawfordsville, Indiana, and in 1948-1949 served as chairman of the biological sciences in the College of the University of Chicago.

His research interests, in addition to his basic radiobiologic work on the biological effects of fission neutrons and γ-rays, protection against radiation effects, recovery from irradiation and the use of neutrons in cancer therapy, include social behavior in birds and mammals and the history of Arctic aviation. He has served as ornithologist with the Bowdoin-MacMillan Arctic Expedition in 1934 and as an associate at the Roscoe B. Jackson Memorial Laboratory in Bar Harbor, Maine.

Since 1950, he has been identified with very important research in radiobiology at the Argonne National Laboratory.

Dr. Vogel is a Fellow of AAAS, and a member of the American Society of Zoologists, Radiation Research Society, Society of The Sigma Xi, Phi Beta Kappa, and RESA (Argonne).

He has recently returned from a trip to Australia, New Zealand and Japan. He presented a paper at the Second Australasian Conference on Radiobiology held at Melbourne in December 1958.

Dr. Vogel is married to the former Miss Christine McKean and is the father of two daughters, Nancy Edith, who is seventeen, and Diana Ellen, who is fourteen.

Dr. Vogel's presentation will be accompanied by slides.

Comdr. David Minard, M.C., U.S.N., of the Naval Medical Research Institute, National Naval Medical Center, Bethesda, Maryland, is forty-six years old. He holds the following degrees: B.S. (1935); Ph.D. (Physiology, 1937); and M.D. (1943), all from the University of Chicago, and M.P.H. (1954) from the Harvard School of Public Health.

He served his internship at the United States Naval Hospital at Bethesda in 1943-1944. Then he was on sea duty with the Amphibious Forces in the Pacific, 1944-1946. He later served briefly at the United States Naval Hospital at Aiea Heights, Hawaii. Back in the United States, he was stationed at the Naval Medical Research Institute, where he has remained until the present, except for the years (1952-1954) that he spent at the Harvard School of Public Health.

At present, Comdr. Minard is head of the thermal stress control branch of BUMED.

He is a diplomate of the American Board of Preventive Medicine in Occupational Medicine, a member of AAAS, American Physiological Society, Industrial Medical Association, New York Academy of Sciences and the Washington Academy of Sciences.

His research interests include circulatory physiology, medical aspects of survival, heat stress in navy vessels, prevention of heat casualties in recruit training, heat stress during military operations in the tropics, physiology of combat stress (Korea, 1952) and human calorimetry.

In his paper, accompanied by slides, Comdr. Minard will define tropical heat stress in terms of a new index which integrates all physical factors of the thermal environment into a single value, and will describe briefly the application of this index to the prevention of heat casualties in recruits during training in hot climates. Since tropical heat stress can lead to serious loss of combat efficiency in unacclimatized troops rapidly transported from temperate to tropical climates, experimental data obtained in a recent exercise which Comdr. Minard will cite is of vital importance. In this exercise, known as "Operation Banyan Tree," a battle group of airborne infantry was flow from Fort Bragg to Panama, where the troops parachuted

Prof. Howard H. Vogel, Jr.
Argonne National Laboratory

Comdr. David Minard, M.C.,
U.S. Navy

Prof. Dr. Dietrich E. Beischer
U.S. Naval School of
Aviation Medicine

and immediately engaged in strenuous activities lasting two days. Comdr. Minard will discuss implications of the physiological tests obtained on ten test subjects.

By the time Comdr. Minard presents his paper, his promotion to Captain may have been formalized.

Lt. Comdr. John H. Ebersole, M.C., U.S.N., medical officer on the USS Seawolf (SS(N)575), will present the last paper of the afternoon. It is called, *Sixty Days Under the Atlantic Ocean—Report of the Problems on a Constantly Submerged Atomic Submarine.*

Comdr. Ebersole was born in Sterling, Illinois, in 1925. He was educated at St. Ambrose College, Davenport, Iowa, and was graduated M.D. from Indiana University Medical School in 1948. He interned at St. Vincent's Hospital in Indianapolis.

He entered naval service in 1949. After completing deep sea diving school and submarine [illegible]

In 1953 Comdr. Ebersole qualified as a submarine medical officer and was assigned to the submarine nuclear propulsion program. He was stationed with the initial U.S.S. Nautilus crew at Reactor Testing Station, Arco, Idaho. In 1954 he was assigned to the U.S.S. Nautilus as medical officer, and when it was commissioned served aboard until February 1956. He was the first naval medical officer assigned directly to a submarine for permanent duty on board. Later he was transferred to the U.S.S. Seawolf, again scoring a first—the first naval officer to commission and serve on two nuclear submarines.

Comdr. Eberle is the author of several articles reporting on the data he gathered during his service on the two atomic submarines, and is the recipient of the Gorgas Medal from the Association of Military Surgeons of the U.S. for outstanding work in preventive medicine in the field of [illegible] bership of the College. Dr. Fishbein, in his characteristically erudite fashion, will discuss Christian Fenger, the Danish-born surgeon and pathologist, on Tuesday morning, September 15. (We have just celebrated Dr. Fishbein's seventieth birthday. Congratulations, Morris! Continue *ad multos annos!*)

Dr. Karl Meyer, outstanding surgeon, teacher and administrator, secretary of the United States Section of the International College of Surgeons, will, on Wednesday morning, September 16, deliver the address commemorating, appropriately, the master surgeon John Benjamin Murphy, who was very active in the Cook County Hospital, the institute to which Dr. Karl Meyer has devoted so much of his own effort.

And on Thursday morning, September 17, Dr. Bornemeyer will speak of Nicholas Senn, the great military surgeon of his time.

An Act of Piety Which Enlightens the Future

These ceremonies, so fitting the high purpose for which the North American Federation of the College convenes, are a mark of our respect to those whose labors opened the way for us. Equally, they should inspire us to tireless effort, to imaginative leaps of the mind to new concepts, and to devotion to the high calling we have espoused, so that we too will somehow further the horizons of surgical knowledge and better the future of mankind.

This I Myself Remember

Those were great days at Rush, the days of the giants in American medicine. Some of the men who belonged to the Rush faculty of my day would later become identified with other schools. Lewellys F. Barker, noted anatomist, was one of these. The world-renowned biologist Jacques Loeb was another. And there was John Benjamin Murphy, later to become the idol of students at Northwestern University Medical School.

Frank Billings taught medicine. Arthur Dean Bevan taught surgery; Daniel Roberts Brewer taught neurology; James Nevins Hyde, dermatology. In medicine we had Bertram Welton Sippy, in pathology Ludvig Hektoen. Dean Dewitt Lewis was an instructor in surgery, John Clarence Webster in gynecology. James Bryan Herrick taught cardiology. The escutcheon of old Rush was indeed embellished with notable names, those I have mentioned and others!

And towering like giants in the midst of giants were the Danish-born Christian Fenger and the Swiss-born Nicholas Senn, builders of surgery and surgical pathology in the American West of that era.

Even now I sometimes hear, in my mind's ear, Fenger expostulating in broken English, "That damned right side!" He is fussing over an atypical syndrome in the right hypochondrium when a diagnosis of appendicitis was made but distinct evidence also implicated some portion of the biliary passage.

"Ubi pus, ibi evacuo!" thundered Nicholas Senn. Time and time again, in critical moments, he would emphasize the Latin phrase.

Although a pioneer in surgical pathology, diagnosis and therapy, Senn delighted in confronting candidates taking their examinations for the degree of Doctor of Medicine with medical problems. When perplexed, the student would remonstrate.

"But Professor Senn, I am taking a surgical examination. This is a medical case."

"True," Senn would retort, "but I wish to impress upon you that anyone aspiring to become a capable surgeon must first become a capable physician."

I knew John Benjamin Murphy when

he was a not very happy teacher at Rush. And I blush with shame when I remember how some of his greatest achievements were attacked. (Human nature has not changed through the ages, and I wonder if it ever will.)

But I anticipate too much. The rush of memories, like everything else in life, must be disciplined.

Christian Fenger, Pathologist and Teacher of Teachers

Christian Fenger was born in Denmark. He was one of twelve children in a family of well-to-do farmers. He was born in 1840, and received an excellent education. He was graduated from the Herlufsholm School in 1859, and for a year studied engineering at the Polyteknish Lâreanstalt in Copenhagen, but he then entered upon the study of medicine at the University of Copenhagen. His studies were interrupted by the Schleswig-Holstein War, in which he saw service as an assistant physician. Later, during the Franco-Prussian War he was appointed to an international ambulance unit.

For three years Fenger was an assistant in clinical otology to Dr. Vilhelm Meyer. For two years he interned at King Frederick's Hospital, and for three years he served as prosector to the Commune Hospital. These last three years he began his investigative work in pathology and wrote several articles. One article, on cancer of the stomach, was the thesis which earned for him his M.D. degree.

That was in 1874. The following spring Fenger went to Alexandria, Egypt, where his brother was practicing medicine. In Egypt he remained [illegible]

Dr. Christian Fenger

waiting for him. He was appointed chief pathologist at Cook County Hospital. That was in 1878. In 1880 he was appointed curator of Rush Medical College Museum, and in 1884 professor of surgery in the College of Physicians and Surgeons. In 1893 he relinquished his position at Cook County Hospital and became professor of surgery at Northwestern. In 1899 he assumed the professorship of surgery at Rush.

But it was as pathologist and as a teacher that he made his greatest contribution. His influence, especially upon his interns at Cook County Hospital, was profound. He developed a following that constituted a school of scientific surgery

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honors, wealth and position, he was worn out and an invalid and died. He died of coronary disease. That was in 1916.

Nicholas Senn, Eminent Teacher, Investigator and Military Surgeon

Nicholas Senn, too, died of heart disease and at the age of sixty-three. I mean to point to no moral and it is hardly scientific to draw conclusions from two uncontrolled cases. And certainly neither Murphy nor Senn could in any sense be called controlled.

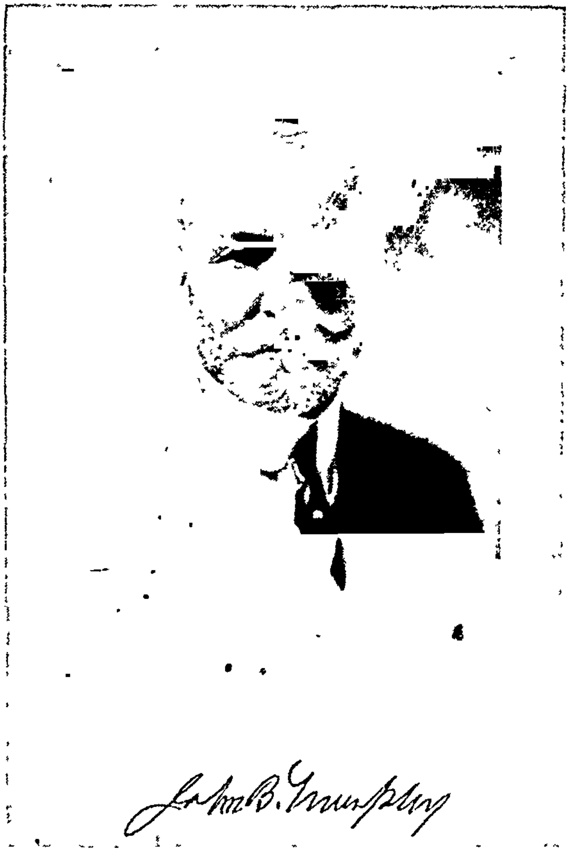
Senn was born in Switzerland, but his parents brought him to the United States in 1852, when he was eight years old, and like Murphy he grew up in Wisconsin. He was graduated from Chicago Medical College in 1868, served an eighteen-month internship at Cook County Hospital and returned to Wisconsin to practice, first at Elmore and then in Milwaukee. During 1877-1878 he studied at the University of Munich and then back he went to Milwaukee.

He continued to practice and make his home in Milwaukee until 1893, even though meanwhile he served as professor of surgery at the College of Physicians and Surgeons (1884-1890) and from 1890 on as professor of surgery and surgical pathology, and from 1891 as head of the department of surgery, at Rush Medical College. He commuted on the Northwestern!

Senn was of course a disciple of Fenger and practiced antiseptic surgery. He systematically did experimental work on animals. He was absorbed in the study of anatomy and pathology. But what fascinated him utterly was military surgery. He made contributions to it, especially in

He was a short man, broad, very energetic. He was impulsive and temperamental. He was kind and generous. He fought for what he thought was right. He gave no quarter. He worked and he studied I could almost say relentlessly. He traveled all over the world, exploring, investigating, making notes, writing.

As I said before, he was generous, yes, generous of his time and service, as doctors and surgeons have been since time immemorial, with the poor. But he also was generous in a different way. He understood the need for strong institutions.



Dr. John B. Murphy

And at sixty-one he was dead of pneumonia.

Today, perhaps, he could have been saved. But that was 1902.

John Benjamin Murphy, Surgeon with a Difference

It is forty-three years since John Benjamin Murphy, then aged sixty-two, died. Yet somehow I have the sense that he belongs more to our present day than to his own time. Perhaps that was his basic characteristic—that he always seemed ahead of himself, and certainly ahead of most of those who were about him.

Murphy, of the three men we honor at this Congress, was the only one who was born in the United States—on a farm near Appleton, Wisconsin. His parents had come from Ireland, and all his life he looked like a distinguished Dubliner—tall, broad shouldered, with red hair, red mustache and a red beard parted in two. There was a touch of formality in his courtesy, however kind he was. He was quick and sparing of speech, which on occasions became cutting.

Murphy's medical career was almost entirely associated with Chicago. He was graduated from Rush Medical College in 1879, interned at Cook County Hospital, and after two years of graduate study in Vienna he returned to Chicago. In 1884 he became a lecturer in surgery at Rush. In 1892 he accepted the chair of clinical surgery in the College of Physicians and Surgeons. From 1901 to 1905 he was professor of surgery at Northwestern University Medical School. Then for three years, 1905-1908, he was professor of surgery at Rush, and finally in 1908 accepted the chair of surgery at Northwestern, which he retained until his death. For much of his career he was attending surgeon at Cook County Hospital and chief of surgery at Mercy Hospital.

He was an excellent teacher, dramatic, emphatic and impressive.

But as a surgeon he was a genius. He worked quickly, with exceeding skill. He advanced knowledge in all aspects of general surgery. He was a surgical innovator and devised, among other aids, the famous Murphy button. He began operating at a time when antiseptic methods were in use, but he himself had an intuitive feeling for asepsis. He attacked surgical problems well equipped with the gifts that make the master surgeon and in addition he had the superlative gift of great energy. He ministered to the wounded in the Haymarket riots. He took care of Theodore Roosevelt. All his life he continued doing daring and life-saving surgery.

What he felt inwardly one cannot tell. But at sixty-two, in spite of fame and honors, wealth and position, he was worn out and an invalid and died. He died of coronary disease. That was in 1916.

Nicholas Senn, Eminent Teacher, Investigator and Military Surgeon

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As I said before, he was generous, yes, generous of his time and service, as doctors and surgeons have been since time immemorial, with the poor. But he also was generous in a different way. He understood the need for strong institutions.

He gave a clinic building to Rush Medical College at a cost of about a hundred thousand dollars, at that time a fabulous amount of money for a doctor to own, to say nothing of giving, and he bought a collection of old and rare books in Göttingen from the library of Prof. William Baum and presented it to the Newberry Library. It is now a part of the Nicholas Senn collection in the Crerar Library of Chicago.

I think he would have enjoyed this Congress of the International College of Surgeons. He would have been fascinated by our submarine and air-space surgeons. He would wholeheartedly have approved of our Hall of Fame.

In fact, I have intuitive faith that even as we pay homage to all three of our great surgical pioneers—Christian Fenger, John Benjamin Murphy, Nicholas Senn—they too are not wholly withholding their approval of us. The Chicago Medical Society and the North American Federation of the International College of Surgeons are carrying the torch we plucked from their relinquishing hands and we are pressing on in that never-ending relay race surgeons and research scientists run against death and disease. We say that Fenger would not now have had to die of pneumonia at sixty-one. And Claude Beck and Charles Bailey, and many more excellent surgeons and cardiologists among us whom I cannot enumerate, are telling me that Murphy and Senn perhaps, too, might have been saved, and that others like them will be saved, if not today, then tomorrow or later for sure.

That is the surgeon's dream—prolongation of life. And that is the dream that all of us dream of nights, even as it was dreamed by Fenger and Murphy and Senn.

Max Thorek

To Perpetuate That Which We Build

You can help direct the future.

Include a gift to the International College of Surgeons among your annual contributions.

Appropriate identification of the donor with his gift can be assured by the terms of the endowment.

What could be more suitable than a niche in the International Surgeons' Hall of Fame which will always be known as the donor's own?

Or a fund linked with one's name that will through time grow to be a bulwark of security—an assurance that the work in which we are engaged will reach into the future?

We should all give serious thought to this matter and act upon it. It is, in truth, our duty and direct obligation to see to it that the work of our hands will endure.

Your contributions are deductible and free from Federal Income Taxation.

Make checks payable to International College of Surgeons.

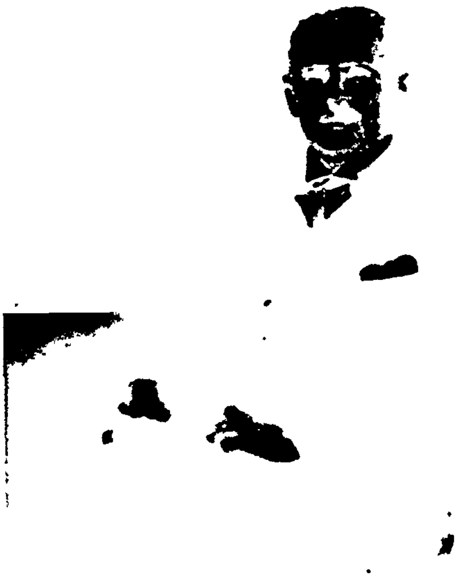
Secretariat
International College of Surgeons
1516 Lake Shore Drive
Chicago 10, Illinois

Dr. Montague Presents Proctologic Library and Museum to Hall of Fame

The International College of Surgeons is happy to announce that Dr. Joseph Franklin Montague, F.I.C.S., of New York City, has very generously presented his extensive proctologic library and an interesting collection of both old and modern rectal instruments to the International Surgeons' Hall of Fame and School of the History of Surgery and Related Sciences.

The collection will be housed in a special room in the Hall of Fame on Lake Shore Drive in Chicago, and will be known as the Joseph Franklin Montague Proctologic Library and Museum.

Dr. Montague has had an architect design special bookshelves and specimen cases which embody novel features. For instance, all books will be at easy eye level. Those directly at eye level are horizontal. The shelves above and below are placed at such an angle that the reading eye is always at right angles to the title. Movable fluorescent lamps facilitate easy reading. Above the bookcases will be portraits of early and active workers in the field of proctology. Below, also placed at an angle comfortable to the viewing eye, are specimen cases containing ancient and modern proctologic instruments and appliances. Descriptive cards will accompany each instrument.



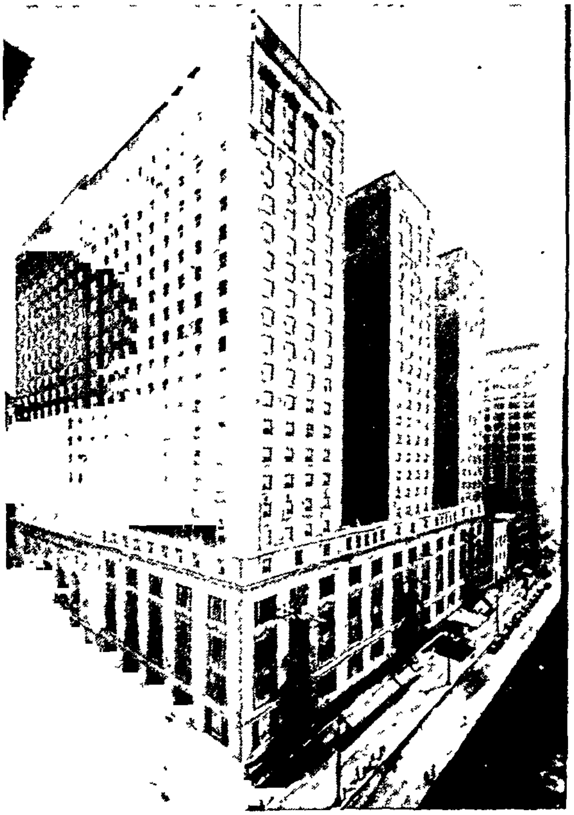
Dr. Joseph Franklin Montague

There will be, in addition to the wide range of books, a collection of transactions of related societies and a comprehensive file of proctologic reprints. Finally, there for maintenance and enlargements, as a nucleus for a bigger and better library and museum to be built by other Fellows of the College. Toward this objective contributions of books and instruments are earnestly requested. Each and every book will be plainly marked showing the name of the donor. The same, of course, applies to instruments which are contributed.

The Montague Proctologic Library and [illegible]

PLAN TO ATTEND

TWENTY-FOURTH ANNUAL CONGRESS
NORTH AMERICAN FEDERATION
(Canada, Mexico, U. S. and Central American Sections)
INTERNATIONAL COLLEGE OF SURGEONS



PALMER HOUSE—CHICAGO
Congress Headquarters

September 13-17, inc., 1959

For information regarding preliminary program and reservations, etc. address:

Secretariat
International College of Surgeons
1516 Lake Shore Drive
Chicago 10, Illinois

APPLICATION FOR HOTEL RESERVATIONS

TWENTY-FOURTH ANNUAL CONGRESS

North American Federation

(Canada, Mexico, U. S. and Central American Sections)

INTERNATIONAL COLLEGE OF SURGEONS

PALMER HOUSE — CHICAGO

Congress Headquarters

September 13, 14, 15, 16, 17, 1959

Note: The headquarters hotel is reserving a sufficiently large block of rooms for those who will be attending the Congress. However, early reservations are necessary to hold this block of rooms.

PALMER HOUSE

Single Rooms	Double Rooms	Twin Rooms	Parlor and 1 Bedroom
$8.00 and up	$15.00-$22.50	$16.00-$24.50	$40.00 and up (1 person)

Mail to: ROOM RESERVATIONS
THE PALMER HOUSE
CHICAGO 90, ILLINOIS

Please make the following reservation for the 24th Congress of the International College of Surgeons:

Single Room	Double Rooms	Twin Rooms	Parlor and 1 Bedroom
$ to $	$ to $	$ to $	$ to $

Arriving a.m. or p.m. Departing a.m. or p.m.

Please include the names of all persons who will occupy rooms requested

International College of Surgeons

Founded by Dr. Max Thorek
(Geneva, Switzerland, 1935 - Washington, D. C., 1940)
A World Federation of General Surgeons & Surgical Specialists, Inc.
"Instrument of the Free World"

Re: Membership Directory

OFFICE OF THE
INTERNATIONAL SECRETARY GENERAL
850 WEST IRVING PARK ROAD
CHICAGO 13, ILLINOIS

Dear Doctor:

We are preparing a Directory of the membership of the International College of Surgeons in the United States and the rest of the world. This will include also the Constitution and Bylaws of the College, information on qualifications for membership, a description of the activities of the College, as well as a full list of members, alphabetically and regionally arranged, with pertinent information about each member.

The publication of this Directory will entail an expense to the College of between 25 and 30 thousand dollars. The material is now being prepared for the printers, and we are soliciting your subscription for a copy of this handy and informative volume.

The pre-publication price for a copy of this important book is $5.50 — after publication $7.50.

We would appreciate your cooperation. Please return the attached subscription blank in the enclosed self-addressed envelope, and oblige

Yours sincerely,
PUBLICATIONS COMMITTEE
INTERNATIONAL COLLEGE OF SURGEONS

Dr. Max Thorek, Editor

Directory Department
International College of Surgeons
1516 Lake Shore Drive
CHICAGO 10, ILLINOIS
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From the Executive Director's Notebook

EUROPEAN TOUR AND THE NORTH AMERICAN CONGRESS

Dr. Ross T. McIntire

When these notes appear in the *Bulletin*, I will be in one of the northern European countries.

Following my visit to Montana, where I met with all the members of the Montana State Rehabiliation Association, I have given my time to working out details of our program for the September Congress. We are extremely fortunate to be able to look forward to the presence at our meeting of some of the outstanding surgeons of the world.

An important feature of the Convocation ceremony, which will be held on the evening of September 17, will be an address given by **United States Senator Lister Hill**, one of the foremost advocates of world health.

Senator Hill's grandfather and father were both doctors of medicine. His father was a pupil of Lord Lister, who did so much to change surgical thinking by his great work in asepsis.

Senator Hill will have for us a message of world-wide importance.

Another speaker will be **Prof. Sten Friberg** of the University of Stockholm and one of the outstanding orthopedic surgeons of the world, who will give the Herbert Acuff Lecture.

Monday, September 14, in the Grand Ballroom of the Palmer House, Prof. André Thomas, professor, Faculty of Medicine, the Sorbonne, Paris, will give a demonstration of progress in artificial cardio-pulmonary circulation and discuss physiological and surgical results obtained by use of an artificial pulmonary membrane, invented by Dr. Thomas in 1958.

Capt. E. E. Hedblom, M.C., U.S.N., will give an interesting report on his experiences in the Antarctic — Four Years of Operation Deep Freeze—which will be illustrated with very fine slides.

These are two features that will be on the evening program, beginning at eight o'clock.

All in all, the membership of the College should make every effort to attend the 1959 Congress, for the program will prove interesting to any surgeon, regardless of his specialty.

My next report will cover the northern European tour. Forty-eight people are in our party. Hotel accommodations have forced us to cut the personnel down to this level.

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Around-the-World Postgraduate Refresher Clinic Tour

October 10 - November 28, 1959

Dr. Edward L. Compere, F.A.C.S., F.I.C.S. (Hon.), Coordinator

The reservations for the 1959 Around-the-World Postgraduate Refresher Clinic Tour that is scheduled to leave on October 10 are going rapidly.

And no wonder. The trip is compounded of every fascinating possibility for a scientifically profitable and socially enjoyable journey, which in itself answers all our desires for a change of scene, variety in tempo of living, a little adventure with plenty of comfort, and a *soupçon* of excitement in perfect safety.

Arrangements are all being completed. The national sections of the International College of Surgeons that will entertain the visitors are planning clinical and scientific sessions and thinking up ideas for their entertainment. Mostly the entertainment will be representative of the high culture—and certainly the high *cuisine*—of each country, to avail oneself of which it will be a great privilege. So often travelers even on perfectly arranged tours meet only each other, and what they see of foreign countries is the scenery and a façade erected for the trade, as it were, the tourist trade. But on the International College of Surgeons' Tours, the front doors are open and the visitors are invited in and asked to make themselves at home among friends.

All this is a rare experience when traveling, especially in countries whose language is not like our own. But at College meetings and College social functions we meet many friends who speak English and a bridge of understanding is established.

And so, without a care, confident that all arrangements are in the capable hands of the International Travel Service, and full of justifiable anticipation of splendid companionship together with professional interest, you will be leaving on October 10, with Dr. Edward L. Compere, F.A.C.S., F.I.C.S., and Mrs. Compere and other pleasant companions, for that journey around the world to which you have so long been looking forward.

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United States Section

THE PRESIDENT'S MESSAGE

Surgeons Assemble in Chicago

Dr. Edward L. Compere

By this time you should have received your invitation to the Twenty-Fourth Annual Congress of the North American Federation of the International College of Surgeons, which is scheduled to meet in the Palmer House, Chicago, Illinois, September 13-17, 1959. This meeting has been declared to be in honor of the Chicago Medical Society and three great Chicago surgical pioneers, Dr. Nicholas Senn, Dr. John B. Murphy, and Dr. Christian Fenger.

The general chairman of the Congress, which we believe is shaping up to the point where it can be declared one of the finest surgical programs ever to be scheduled, is **Dr. Alexander Brunschwig**, F.A.C.C., F.I.C.S. (Hon.), D.A.B., New York City. The two honorary chairmen of the Congress will be **Dr. Karl A. Meyer**, F.A.C.S., F.I.C.S. (Hon.), D.A.B., Chicago, and **Dr. W. W. Babcock**, F.A.C.S., F.I.C.S. (Hon.), D.A.B., emeritus professor of surgery and emeritus chairman of the department of surgery of Temple University, Philadelphia.

Distinguished Guests From Abroad

Advance information has established the fact that there will be many distinguished surgeons from Europe and Asia in addition to those from the North American Federation. Among those visiting celebrities who will take part in the program is **Prof. Dr. Sten A. Friberg**, professor and Chairman of the Department of Orthopedic Surgery at the *Orthopediska Klinik* of the *Karolinska Institutets,* and rector of the *Karolinska Mediko-Kirurgiska Institutet* of the University of Stockholm, Sweden. Dr. Friberg has been invited to give one of the two convocation addresses and also the Acuff Memorial Lecture. Sten Friberg is known to orthopedic surgeons throughout the world and, in addition to being a splendid surgeon, scientist and university administrator, is a very fine gentleman and the friend of hundreds of American doctors.

Prof. Dr. Hajime Imanaga, professor of surgery, Nagoya University, Nagoya, Japan, will speak on *Surgical Treatment of Portal Hypertension.*

Dr. Ian Davidson of Sudbury, Ontario, Canada, president-elect of the Canadian Orthopaedic Association, will give an instructional course on *Injuries of the Knee Joint.*

Among other eminent surgeons from countries outside the United States and Canada who will attend the meeting and take part in the program are **Prof. Dr. Jean Creyssel**, Lyons, France; **Prof. Dr. Raymond Darget**, Bordeaux, France; **Prof. Dr. Alfonso de la Peña**, Madrid, Spain; **Dr. Josè Ramirez D.**, Guayaquil, Ecuador; **Prof. Dr. Esteban D. Rocca**, Lima, Peru; **Dr. John Swinney**, England; **Prof. Dr. Jorge A. Taiana**, Buenos Aires, Argentina; **Prof. Dr. Andre Thomas**, Paris, France; **Dr. Pierre Jean Viala**, Paris, France, and **Dr. Charles P. Wilson**, London, England.

Two years ago at the Congress in Chicago the Orthopedic Section inaugurated the policy of giving a few postgraduate instructional courses. These courses were over-subscribed and it was necessary to enlarge the seating capacity of the rooms for which they had been scheduled. As a result of this enthusiastic response to instructural courses, Program Chairman Newton C. Mead and his committee, in arranging the orthopedic sectional program, have set up postgraduate courses each morning, Monday through Thursday, from 8:00 a. m. to 9:30 a. m. and postgraduate symposia Monday, Tuesday and Wednesday afternoons. The symposia will be in the Grand Ballroom and will be of interest to all doctors regardless of their specializations. The advance registration slip should be filled out and sent in as soon as possible by all those who are interested in the postgraduate courses.

Thursday afternoon will be devoted to one of the most exciting programs that has ever been offered to a medical group. This will include a report of Lt. Commander J. H. Ebersole, Medical Officer of the U. S. S. Seawolf, on his experiences during the sixty days of under-sea travel in the atomic submarine which successfully passed beneath the North Pole. There will be several lectures for those of us who have been interested in the stories of the plans which are being made for human flight into outer space.

We all have coronary arteries and we know that there is a good possibility that each one of us will have coronary artery disease at some time. Regardless of whether we are general surgeons, orthopedic surgeons, [illegible] or members of an allied [illegible] specialty, we should be greatly [illegible] Charles P. Bailey, [illegible] [illegible] scribe the brilliant work which he has done in treating, by surgery, coronary artery disease.

Your Presence is Essential

The program which has been arranged should not be wasted on a small audience.

At least five thousand surgeons should register in Chicago for this meeting. This would mean that at least one-half of our membership should be present for the meeting, and we should also like to have a large contingent of guests. This is not impossible of accomplishment. If each of you who have the honor of membership in the International College of Surgeons will come to this meeting with determination to attend every section that time will permit and will bring with you, or persuade to come on their own, several of your surgical colleagues, we can have overflow crowds at all meetings.

As president of the United States Section, which is serving as host to the Sections from other countries in the North American Federation, I urge each member of the various Sections in this hemisphere to determine at this early date that he is definitely going to attend this great Surgical Congress and to pledge that he will try to persuade the best surgeons with whom he is acquainted to come to the meeting in Chicago in September. Don't delay. Fill out the advance reservation requests for banquet and social-hour tickets which you have received through the mail and the advance registration for the Surgical Congress and mail them [illegible] day! If you wish to attend postgraduate [illegible] courses [illegible] of which are [illegible] Instructional Courses in Orthopedic and Traumatic Surgery, [illegible] College Secretary.

Tennessee State Chapter to Meet

Chattanooga — September 28, 1959

Dr. Guy M. Francis
President
Tennessee State Chapter
International College of Surgeons

The Tennessee State Chapter of the United States Section of the International College of Surgeons will hold a luncheon session at the Tennessee Valley Medical Assembly in Chattanooga on September 28, 1959. Present at the luncheon will be **Dr. Max Thorek** of Chicago, founder and secretary general of the International College of Surgeons; **Dr. Lyon H. Appleby** of Vancouver, vice-president of the College and former president of the Canadian Section, and **Dr. Ross T. McIntire**, executive secretary of the International College of Surgeons.

The Tennessee Valley Medical Assembly is meeting at Read House, Chattanooga, Tennessee, September 28-29.

Scientific Program

MONDAY, SEPTEMBER 28

Morning Session

The Surgical Treatment of Peptic Ulcer
JOHN R. PAINE, M.D., Buffalo, New York, professor of surgery, University of Buffalo School of Medicine

New Horizons in Cardiac Surgery
DWIGHT E. HARKEN, M.D., Boston, assistant professor of clinical surgery, Harvard Medical School

Use and Abuse of Antibiotics
PERRIN LONG, M.D., Brooklyn, New York, professor of medicine, New York State University

The Major Neuralgias and Their Surgical Treatment
J. GRAFTON LOVE, M.D., Rochester, Minnesota, chief of the section of neurosurgery at the Mayo Clinic

The Decisive Edge
LOUIS M. ORR, M.D., Orlando, Florida, president, American Medical Association

Afternoon Session

Impending Death Under Anesthesia
MAX THOREK, M.D., Chicago, founder and secretary general of the International College of Surgeons

Hypnosis in the Practice of Medicine
MILTON H. ERICKSON, M.D., Phoenix, Arizona

The Natural History of Arteriosclerosis Obliterans
EDGAR V. ALLEN, M.D., Rochester, Minnesota, senior consultant in medicine, Mayo Clinic

Minor Clinical Perils
EUGENE A. STEAD, JR., M.D., Durham, North Carolina, professor of medicine, Duke University

TUESDAY, SEPTEMBER 29

Morning Session

Newer Advances and Problems in Surgery of the Gastrointestinal Tract
RICHARD T. SHACKELFORD, M.D., Baltimore, Maryland, assistant professor of surgery, Johns Hopkins University School of Medicine

Expected Behavior in Children
LEE FORREST HILL, M.D., Des Moines, Iowa, president, American Board of Pediatrics

Diabetes, Oral Medications
RACHMIEL LEVINE, M.D., Chicago, chairman of the department of medicine, Michael Reese Hospital

Treatment of Cancer of the Skin
JUAN A. DEL REGATO, M.D., Colorado Springs, director of the Penrose Cancer Hospital

Plastic Repair Following Farm, Industrial and Automobile Accidents
JAMES BARRETT BROWN, M.D., St. Louis, Missouri, professor of clinical surgery, Washington University School of Medicine

Afternoon Session

The Coeliac Axis in Relation to the Expansion of the Operation for Gastric Carcinoma
LYON H. APPLEBY, M.D., Vancouver, B. C., Canada, associate professor of clinical surgery, University of British Columbia

Pathologic Physiology of the Pubococcygeus Muscle
ARNOLD H. KEGEL, M.D., Los Angeles, associate professor in gynecology, University of Southern California

Light-Sensitive Eruptions and Their Management
RUDOLPH L. BAER, M.D., New York City, associate professor of dermatology and syphilology, New York University Medical School, Post-Graduate Division

Delayed Union in Femoral Neck Fractures
GEORGE O. EATON, M.D., Baltimore, Maryland, associate professor of orthopedic surgery, Johns Hopkins University School of Medicine

The Social Program

On Sunday, September 27, there will be a golf tournament at the Chattanooga Golf and Country Club, with a social gathering to follow.

A banquet, preceded by a social hour, will take place on Monday, September 28, at which Dr. Morris Fishbein, F.I.C.S. (Hon.), of Chicago, will speak on *Medicine and the Changing Order*.

Ladies are invited to the banquet, and other social events are being planned for their entertainment.

News Briefs

DR. CLIFTON L. DANCE HONORED BY BAY RIDGE MEDICAL SOCIETY

Dr. Clifton L. Dance, F.I.C.S., of Brooklyn, New York, [illegible] Bay Ridge Medical Society on Tuesday, June 9.

[illegible]

DR. GILLIAM S. HICKS PRESIDENT-ELECT OF MISSISSIPPI STATE MEDICAL ASSOCIATION

Dr. Gilliam S. Hicks, [illegible]

Woman's Auxiliary

THE PRESIDENT'S MESSAGE

Introducing Our New President

Mrs. Earl Ingram Carr

In September, at the Congress of the International College of Surgeons, Mrs. **Park Niceley** will be inducted as president of the Woman's Auxiliary to the United States Section of the International College of Surgeons.

Mrs. Niceley has been a member of the board of the Auxiliary for a number of years, holding several important chairmanships, and is therefore conversant with all phases of Auxiliary activity. She is a capable leader who herself serves with devotion and inspires others to wholehearted cooperation.

Mrs. Niceley's ability has been recognized by many organizations. She has served as president of the Woman's Auxiliary to the Tennessee State Medical Association and as president, for two terms, of the Woman's Auxiliary to the Knoxville Academy of Medicine.

Mrs. Niceley's medical interests are legion, but they have not absorbed all of her time or talent. She has held numerous offices in the historical, musical and art groups of her city. Indeed, she was chosen by Beta Sigma Phi sorority as Knoxville's First Lady for the year 1955. This sorority is an international organization, indicative that our future president's outlook has international breadth.

Mrs. Niceley was born Virginia Whisman, and is a true product of the South. She was a history major and was graduated with a B.S. degree in education from the University of Tennessee. It was while she was teaching art education in the Knoxville schools that she met Dr. Niceley.

After their marriage, Dr. Niceley's preparation for the practice of urological surgery took them temporarily north to Philadelphia and to Montreal. In fact it was in Philadelphia that their son Hugh

Mrs. Park Niceley

was born—for a brief and evanescent period a northerner. Their daughter Claire Lucie has perpetuated the southern tradition by graduating this year from a preparatory school in Winston-Salem, North Carolina.

On completion of Dr. Niceley's military service, the family settled on a small acreage just outside of Knoxville, where Dr. Niceley became an associate of Dr. Herbert Acuff. No one associated with the revered Dr. Acuff, whose tenure as international president of the College was outstanding, could avoid being impressed with the importance of this great organization. Indeed, at the present, Dr. Niceley is a member of the board of governors.

So, as is so frequently the case in the realm of medicine, both Dr. and Mrs. Niceley are joining their abilities to further the advancement of our International College of Surgeons.

It will, at the appropriate time, be not only my honor and my privilege but also my very great pleasure to turn the presidency of the Woman's Auxiliary over to Virginia Niceley, whose many years of ready and efficient service to the Auxiliary and the College are assurance of splendid leadership and a constructive future for our Auxiliary.

Ruth Smith Carr

Congress Entertainment Program

The program of entertainment planned by the Woman's Auxiliary for the Twenty-Fourth Annual Congress in Chicago, September 13-17, opens with a welcoming tea at the College Headquarters on Monday afternoon, September 14. As in years past, Mrs. Max Thorek is the hostess at this first social event on the program.

On Tuesday a luncheon in the lovely Mayfair Room of the Sheraton-Blackstone Hotel will give members and guests of the Auxiliary an opportunity to enjoy a delightful program.

On Wednesday the new Wabash Room of the Palmer House is the setting for the Auxiliary luncheon, to be followed by a brief business meeting. The reception at six o'clock in the Red Lacquer Room and the banquet at seven in the Grand Ballroom will close the busy day.

glamorous places. Following the luncheon a reception for the wives of surgeons who are to be inducted at the Convocation will be held at the Hall of Fame.

ENTERTAINMENT COMMITTEE

Mrs. Max Thorek, Honorary Chairman
Mrs. Earl Ingram Carr, *President of the Woman's Auxiliary,*
General Chairman
Mrs. Walter Cleveland Burket, Chairman of Program
Mrs. Chester W. Trowbridge, Chairman of Hospitality
Mrs. Jerome J. [illegible], Chairman of Registration
Mrs. Adolph M. [illegible], Chairman of Reservations
Mr[illegible] Robert L[illegible], [illegible]

Journey Into Freedom

EXCERPTS FROM A TWENTIETH CENTURY BIOGRAPHY
PART V

JOSEPH ANTHONY MALEJKA, M.D.
NEW YORK CITY, NEW YORK

SUMMARY OF PREVIOUS INSTALLMENTS: In Poland, during midsummer of the year 1946, at the age of twenty-one, I sought and finally obtained my parents' permission to leave the country. Five years earlier I had been shipped to Germany as a slave farm laborer. I had escaped to serve for three years in the Polish underground. Now I sought a future elsewhere in the world. I said goodbye to my parents and to my young brother. Together with a boyhood friend whom I here call Henry posing as students on a holiday, I made my way to Zgorlice (Gorlitz) on the river Nisa (Neisse). This was now the Polish-German boundary, and after a near-disastrous attempt to enlist the aid of a Polish soldier, I joined a group of would-be escapees led by a professional smuggler, who, however, demanded more money than I had. Henry and I then explored the Czechoslovakian border at Leszna but found it too well guarded.

Forced by necessity, we returned to Gorlitz and I entrusted my fate to the smuggler. I was intercepted and kept prisoner by a pair of officers, one Polish and the other Russian, while they feuded with the smuggler over money and kept on drinking.

At this point a fair-haired man of about thirty entered the room. His face was lined with sweat and fatigue and at once he headed for the sofa and dropped wearily into its depths. He was followed by two officers. One of the officers now laughed.

"Here is your Zbigniew," he said. "We nabbed him with no difficulty this time. We have his money also."

It was not difficult to conclude that the blond young man on the sofa was Zbigniew and that he was the ringleader of the smugglers. He looked up now with a wan smile.

"You would never have got me," he said quietly. "But I had to cross over no matter what the danger. I contracted syphilis on the other side. If I can reach a hospital, there may be some hope for me. Otherwise none," he finished in a soft voice.

The Russian officer laughed. Yet it was somehow a forced laughter. The drinking continued. The mood had subtly changed from that of the cat celebrating the catch of a mouse to that of a mood of agitation. It was not the drink that was responsible for this mood, but rather the blond young man on the sofa calmly announcing his own death sentence.

It was now eleven o'clock. I could stand my own predicament no longer. Taking advantage of this new subdued and confused atmosphere, I approached the Polish officer.

"Let me go," I demanded.

He studied me for a long moment. The room was silent about us. In that long moment of waiting, I aged many years. Then, to my amazement, I heard his voice stating harshly.

"Pack your belongings."

As I hurried to the table to collect my few pathetic articles, the Polish officer now moved over to the Russian, his hand extended.

"The boy's papers," he demanded.

For a moment the Russian hesitated. Then he handed over my documents.

Quickly I jammed everything into my bag. I then passed a package of cigarettes around to the entire group. All quietly took one. I was about to place the half empty pack on the table when the Polish officer commanded,

"Pack everything and follow me."

We now walked from the room. My smuggler friend followed to the door, watching curiously. We left the inn. I could not believe my good fortune.

Approaching the bridge, the Polish officer commanded the guard to allow me to pass. The guard hesitated.

"This is an order," my Polish officer friend snapped. "I command you to allow this boy to pass."

For a moment longer the guard hesitated. Then suddenly he saluted. He smiled at me.

"If I could do the same, I would," he said quietly. "Good luck to you."

I thanked them both quickly and not wishing to try my luck further by delaying, I headed at once across the bridge. I expected at any moment to hear shooting behind me, but dared not look back. Also I expected shots from the other side from Russian or German police. But I was fortunate. It was raining hard and they had taken to shelter.

Once on the other side, I quickly dodged into a side street and picked up a conversation with a German worker. Together we walked along and I tried to listen sympathetically to his complaints about the devaluation of currency and bad wages. Casually I asked where the sta-

the station. I lingered outside long enough to ascertain that none of the passengers entering had to show a certificate to the police. This, of course, I did not have. Yet, driven by the realization that I had no other choice, and also boistered by my confidence at having achieved my goal thus far, I slipped in among the entering passengers, and brazenly walked on past the guards. I was not challenged.

Once inside the station, I bought a ticket for Dresden, casually paying the required price with the few marks I had. Glancing at the information board, I saw the *next train for Dresden was listed for departure* at two o'clock.

(To be concluded in the September issue)

Dr. Joseph Anthony Malejka, now a third-year surgical resident at Beekman-Downtown Hospital in New York City, was the recipient of the 1956-1957 international scholarship offered by the Woman's Auxiliary to the United States Section of the International College of Surgeons. He spent that year as a fellow and assistant resident in surgery at the Albert Einstein College of Medicine and the following year as resident in general surgery at Beth Israel Hospital in New York City. In September 1957, Dr. Malejka read one of three resident award essays presented at the Twenty Second Annual Congress of the North American Federation of the International College of Surgeons. His paper, The Metabolic Response to Surgery, was [illegible]

Section News

FRANCE

Réunion Annuelle du Chapitre Français du Collège International de Chirurgiens

Le Chapitre français du Collège international de chirurgiens a tenu ses assises annuelles à Lyon les 19, 20 et 21 juin 1959, avec un faste extraordinaire. Les 19 et 20 juin ont été consacrés aux travaux scientifiques, le 21 étant réservé à la mise en contact des participants au cours d'une excursion dans le Beaujolais.

La séance inaugurale a eu lieu dans le grand amphithéâtre de la Faculté de Médecine en présence du **Préfet du Rhône,** du **Maire de Lyon,** du **Recteur de l'Université,** du **Doyen de la Faculté de Médecine,** du **président de la Société de chirurgie de Lyon. S.E. le Cardinal Gerlier,** Primat des Gaules, avait désiré elle ausi montrer tout l'intérêt qu'lle accorde au Collège international de chirurgiens, en honorant cette séance inaugurale de sa présence.

Le professeur Creyssel, président du Chapitre français et président du congrès, a salué les hôtes puis, après que le Maire de Lyon eût souhaité la bienvenu aux participants, le Doyen de la Faculté de Médecine a décrit le rôle de l'Ecole Lyonnaise de chirurgie et souligné l'importance du Collège international de chirurgiens dans les progrès de cette discipline.

La seconde séance scientifique a été présidée par le **Ministre de la Santé publique** venu tout exprès de Paris à cette occasion pour souligner la haute valeur que le gouvernement français attache au Collège international de chirurgiens.

Les séances scientifiques se sont tenues à la fois dans le grand amphithéâtre et dans la Salle des thèses. Elles ont été remarquables par leur tenue scientifique. Notons particulièrement la communication du **Professeur Pollosson** sur *Le traitement du cancer du corps utérin, de* MM. **Laborit et Niaussat:** *Etude expérimentale et thérapeutique de la résistance à l'anoxie cérébrale par arrêt circulatoire chez le lapin,* **Morel-Fatio et Bitker:** *Les traitements chirurgicaux de la maladie de Dupuytren,* **Iselin:** *L'urgence différée en chirurgie de la main, de* MM. **Magendie, Leger et Aurousseau, Brenier, Jourdan,** et **Welti,** tant d'autres encore.

De nombreux films chirurgicaux ont été projetes, parmi lesquels il faut accorder une mention spéciale à ceux de MM. **Dogliotti,** Turin, sur *La chirurgie de remplacement de l'oesophage,* **Darget,** sur *La voie postérieure dans la chirurgie rénale et Radiumthérapie dans les tumeurs malignes de vessie,* les films de MM. **Louros,** Athènes, **Bacon,** Philadelphie, *Le cancer du rectum.*

Les congressistes ont également eu le privilège d'assister à deux belles séances opératoires téléviseés en couleurs, assurées par MM. **Paufique** (cataracte), **Guilleminet** (Varisation de la hanche), **Schnepp** (Transplantation tendineuse — opération poulie).

Signalons encore la belle conférence faite à l'occasion de ce congrès par le chirurgien-écrivain **Diamant-Berger** sur Rabelais.

Une réception a été offerte à l'Hôtel de Ville et le congrès s'est terminé par un magnifique banquet aux chandelles, tenu dans la Salle des Mosaïques du Palais Saint-Pierre, où les participants purent féliciter le Professeur Creyssel et ses collaborateurs de la magnifique réussite de ces journées du Chapitre français.

Congress of the French Section

The French Section of the International College of Surgeons held an extraordinarily brilliant annual session at Lyons on June 19, 20 and 21, 1959. The first two days were devoted to scientific presentations, but the final one was reserved for relaxation and for a get-together of the participants on a tour of the Beaujolais countryside and its famous wine caves.

The opening session was held in the Grand Amphitheatre of the Faculty of Medicine in the presence of the **prefect of Rhône**, the **mayor of Lyons**, the **rector of the University**, the **dean of the Faculty of Medicine**, and the **president of the Lyons Surgical Society**. **His eminence, Cardinal Gerlier**, Primate of France, indicating his interest in the International College of Surgeons, honored the opening session by his presence.

Prof. Creyssel, president of the French Section and chairman of the Congress, saluted the official hosts, and, after the mayor of Lyons extended a warm welcome to the participants, the dean of the Faculty of Medicine described the role of the Surgical School of Lyons and stressed the importance of the International College of Surgeons in furthering the progress of that discipline.

The second scientific session was presided over by the **minister of public health**, who had come especially from Paris for the occasion to emphasize the high value the French government attributes to the International College of Surgeons. *Cerebral Anoxia by Induced Stoppage of Circulation in the Rabbit;* of **Drs. Morel-Fatio** and **Bitker** on *Surgical Treatment of Dupuytren's Disease;* of **Prof. Iselin** on *Deferred Urgency in Surgery of the Hand;* of **Drs. Magendie, Leger** and **Aurousseau, Brenier, Jourdan, Welti**, and also of other Fellows of the French Section.

From among the many excellent surgical films which were projected, special mention must be accorded to those of **Prof. Dogliotti** of Turin on *Surgical Replacement of the Esophagus*, of **Drs. Darget** and **Lamarche** on the *Posterior Approach in Renal Surgery* and on *Radiotherapy of Malignant Tumors of the Urinary Bladder*, and the films of **Prof. Louros** of Athens and of **Dr. Bacon** of Philadelphia, the latter of which dealt with *Carcinoma of the Rectum*.

Congressists also had the privilege of being present at the televising in color of two operative procedures. One, at the Grand Amphitheatre of the Ophthalmological Clinic, was of **Prof. L. Paufique** operating for cataract. The other, at the Traumatological Clinic, was of **Prof. M. Guilleminet** on *Variation of the Hip* and of **Dr. J. Schnepp** on *Tendon Transplantation* (Traction Operation).

We must also add our appreciative comment on the lecture delivered at the Congress by surgeon-writer **Diamant-Berger** on Rabelais.

The Congress was honored by a reception at the City Hall given by the mayor and the municipal council of Lyons. The Congress terminated with a [illegible]

Section News

FRANCE

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Le Chapitre français du Collège international de chirurgiens a tenu ses assises annuelles à Lyon les 19, 20 et 21 juin 1959, avec un faste extraordinaire. Les 19 et 20 juin ont été consacrés aux travaux scientifiques, le 21 étant réservé à la mise en contact des participants au cours d'une excursion dans le Beaujolais.

La séance inaugurale a eu lieu dans le grand amphithéâtre de la Faculté de Médecine en présence du **Préfet du Rhône,** du **Maire de Lyon,** du **Recteur de l'Université,** du **Doyen de la Faculté de Médecine,** du **président de la Société de chirurgie de Lyon. S.E. le Cardinal Gerlier,** Primat des Gaules, avait désiré elle ausi montrer tout l'intérêt qu'lle accorde au Collège international de chirurgiens, en honorant cette séance inaugurale de sa présence.

Le professeur Creyssel, président du Chapitre français et président du congrès, a salué les hôtes puis, après que le Maire de Lyon eût souhaité la bienvenu aux participants, le Doyen de la Faculté de Médecine a décrit le rôle de l'Ecole Lyonnaise de chirurgie et souligné l'importance du Collège international de chirurgiens dans les progrès de cette discipline.

La seconde séance scientifique a été présidée par le **Ministre de la Santé publique** venu tout exprès de Paris à cette occasion pour souligner la haute valeur que le gouvernement français attache au Collège international de chirurgiens.

Les séances scientifiques se sont tenues à la fois dans le grand amphithéâtre et dans la Salle des thèses. Elles ont été remarquables par leur tenue scientifique. Notons particulièrement la communication du **Professeur Pollosson** sur *Le traitement du cancer du corps utérin, de* MM. **Laborit** et **Niaussat:** *Etude expérimentale et thérapeutique de la résistance à l'anoxie cérébrale par arrêt circulatoire chez le lapin,* **Morel-Fatio** et **Bitker:** *Les traitements chirurgicaux de la maladie de Dupuytren,* **Iselin:** *L'urgence différée en chirurgie de la main, de* MM. **Magendie, Leger** et **Aurousseau, Brenier, Jourdan,** et **Welti,** tant d'autres encore.

De nombreux films chirurgicaux ont été projetes, parmi lesquels il faut accorder une mention spéciale à ceux de MM. **Dogliotti,** Turin, sur *La chirurgie de remplacement de l'oesophage,* **Darget,** sur *La voie postérieure dans la chirurgie rénale et Radiumthérapie dans les tumeurs malignes de vessie,* les films de MM. **Louros,** Athènes, **Bacon,** Philadelphie, *Le cancer du rectum.*

Les congressistes ont également eu le privilège d'assister à deux belles séances opératoires téléviseées en couleurs, assurées par MM. **Paufique** (cataracte), **Guilleminet** (Varisation de la hanche), **Schnepp** (Transplantation tendineuse — opération poulie).

Signalons encore la belle conférence faite à l'occasion de ce congrès par le chirurgien-écrivain **Diamant-Berger** sur Rabelais.

Une réception a été offerte à l'Hôtel de Ville et le congrès s'est terminé par un magnifique banquet aux chandelles, tenu dans la Salle des Mosaïques du Palais Saint-Pierre, où les participants purent féliciter le Professeur Creyssel et ses collaborateurs de la magnifique réussite de ces journées du Chapitre français.

Congress of the French Section

The French Section of the International College of Surgeons held an extraordinarily brilliant annual session at Lyons on June 19, 20 and 21, 1959. The first two days were devoted to scientific presentations, but the final one was reserved for relaxation and for a get-together of the participants on a tour of the Beaujolais countryside and its famous wine caves.

The opening session was held in the Grand Amphitheatre of the Faculty of Medicine in the presence of the **prefect of Rhône, the mayor of Lyons, the rector of the University, the dean of the Faculty of Medicine, and the president of the Lyons Surgical Society. His eminence, Cardinal** Gerlier, Primate of France, indicating his interest in the International College of Surgeons, honored the opening session by his presence.

Prof. Creyssel, president of the French Section and chairman of the Congress, saluted the official hosts, and, after the mayor of Lyons extended a warm welcome to the participants, the dean of the Faculty of Medicine described the role of the Surgical School of Lyons and stressed the importance of the International College of Surgeons in furthering the progress of that discipline.

The second scientific session was presided over by the **minister of public health**, who had come especially from Paris for the occasion to emphasize the high value the French government attributes to the International College of Surgeons. *Cerebral Anoxia by Induced Stoppage of Circulation in the Rabbit;* of **Drs. Morel-Fatio and Bitker** on *Surgical Treatment of Dupuytren's Disease;* of **Prof. Iselin** on *Deferred Urgency in Surgery of the Hand:* of **Drs. Magendie, Leger and Aurousseau, Brenier, Jourdan, Welti**, and also of other Fellows of the French Section.

From among the many excellent surgical films which were projected, special mention must be accorded to those of **Prof. Dogliotti** of Turin on *Surgical Replacement of the Esophagus*, of **Drs. Darget and Lamarche** on the *Posterior Approach in Renal Surgery* and on *Radiotherapy of Malignant Tumors of the Urinary Bladder*, and the films of **Prof. Louros** of Athens and of **Dr. Bacon** of Philadelphia, the latter of which dealt with *Carcinoma of the Rectum.*

Congressists also had the privilege of being present at the televising in color of two operative procedures. One, at the Grand Amphitheatre of the Ophthalmological Clinic, was of **Prof. L. Paufique** operating for cataract. The other, at the Traumatological Clinic, was of **Prof. M. Guilleminet** on *Varication of the Hip* and of **Dr. J. Schnepp** on *Tendon Transplantation* (Traction Operation).

We must also add our appreciative comment on the lecture delivered at the Congress by surgeon-writer **Diamant-Berger** on Rabelais.

The Congress was honored by a reception at the City Hall given by the mayor and the municipal council of Lyons. The

Medical News Front

WORLD HEALTH ASSEMBLY

The Twelfth World Health Assembly, held in Geneva May 12-29, 1959, was presided over by **Sir John Charles**, chief medical officer of the ministry of health of the United Kingdom.

The three-week session was attended by delegates from eighty-two of the ninety member and associate member states of the World Health Organization. The United Nations and specialized agencies, as well as non-governmental organizations interested in health matters, sent observers to the meeting.

The World Health Assembly adopted a program of work for 1960 along with a regular budget of $16,918,700. Activities planned include the control of major communicable diseases such as tuberculosis and leprosy and eradication campaigns against malaria and smallpox.

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The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Palmer House, Chicago, Illinois, May 16-19, 1960.

For full particulars write the executive secretary, **William P. Didusch**, 1120 North Charles Street, Baltimore, Maryland. Essays must be in his hands before December 1, 1959.

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General Surgery

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Z. MESTER, M.D., F.I.C.S.
BUDAPEST, HUNGARY

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IN the pathophysiologic process of ileus, one of the most important factors is the distention produced by morbid accumulation of gas and fluid in the intestines. Suction therapy is expected to remove fluid and gases and thus eliminate the distention.

The simplest method of decompression is aspiration of the regurgitant gastric contents through a gastric tube (Bartlett). Wangensteen introduces a duodenal sound, if possible, to below the pylorus, by which means the decompression is more thorough than that obtained with a gastric tube. In 1934 Miller and Abbot devised a sound, supplied with an inflatable balloon, that could be introduced into the deeper sec-

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tions of the small intestine. Though this sound has been repeatedly modified, it is most widely used in its original form. In 1946 Cantor described his sound, which consists of a simple rubber tube with a single lumen, at the end of which there is a free-hanging balloon containing mercury. This sound also can be readily introduced into the deeper sections of the small intestine. It can be easily constructed at home. It is to this sound that the observations here to be recorded are referable.

To construct the sound, a rubber tube 3 to 4 mm. long, with an outer diameter of 5 to 6 mm. and an inner diameter of 3 to 4 mm., is used. The tube is provided with eight openings, measuring about 3 to 4 mm. The distance between the individual openings is about 2.5 cm. The two groups consisting of four openings each face in opposite directions. This arrangement of the openings occupies a segment about 20 cm. long at the lower end of the tube (Fig. 1*A*).

Cantor's first model was provided with four such groups of openings with a distance of 11 cm. between each two groups. Thus, the openings occupied about 60 cm. of the entire length of the tube. Earlier I employed this type, but I observed that, for effective suction, too long a part of the tube had to be introduced, the sucking effect being exerted on the stomach only, unless the uppermost opening passed the pylorus. By confining the openings to a short section (20 cm.), I noted that suction may be commenced at an earlier time.

After the distances of 45, 60, 80, 100 and 150 cm. have been marked on the tube with silver nitrate marks (silver nitrate 10 parts, distilled water 5 parts) or with an ink containing silver nitrate, a condom is fastened, by sticking, to the end of the tube in such a way that it constitutes, beyond the end of the tube, a free balloon 6.5 to 7 cm. long. After the superfluous upper part of the condom has been cut off, the free margin of the remaining part is properly folded, stuck to the tube and fastened to it with silk twisted around the tube with many tight turns. Then 5 ml. (about 65 gr.) of mercury is injected with a syringe through the lowermost opening into the balloon, which is finally tied with a piece of silk directly below the lower end of the tube. Prior to this the air in the balloon should be removed, because too much air may hinder introduction of the tube.

Thus, all constituents of the tube being available in every hospital, this modified type of tube can be constructed within some minutes at home.

In my opinion, the details of the introduction and therapeutic application of the sound may be omitted in this paper, since they have been reported by Cantor and Miller, respectively.

In the presence of severe conditions I often carried out, initially, aspiration of the gastric contents only, introduction of the sound into the deeper parts being done some hours later, after the most urgent measures had been taken. The passage of the sound through the pylorus was never difficult; especially in cases of severe intestinal paralysis, it succeeded easily in the majority of cases after the first trial. The passage of the sound through the pylorus is established by aspirating from the stomach, through the tube, the water drunk by the patient, the fact being borne in mind that aspiration of the gastric contents is always possible until the uppermost opening of the tube has failed to pass the pylorus. If the balloon has passed the pylorus it is soon followed by the tube, and, when all the openings have entered the duodenum, the gastric contents can no longer be aspirated. Figure 2 demonstrates that the opaque matter injected through the tube has been only partly injected into the stomach, because some of the openings have not yet passed to beyond the pylorus. The mercury in the

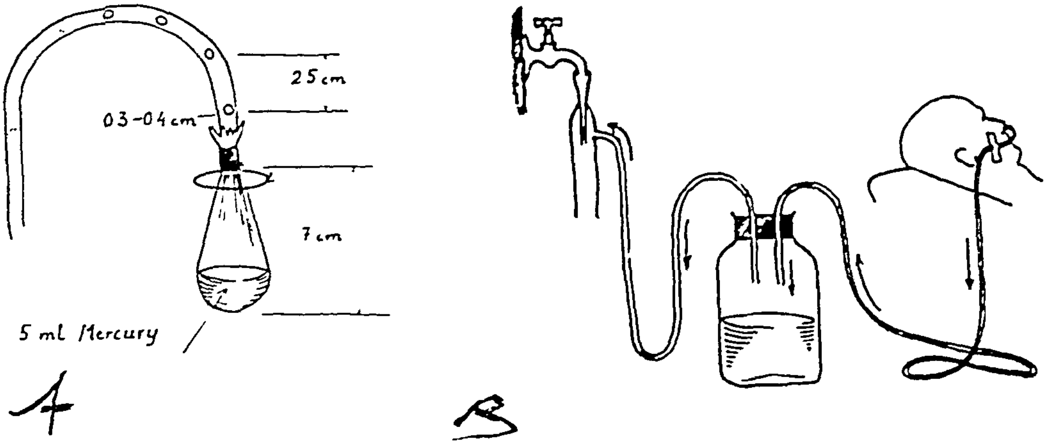

Fig. 1.—*A*, outline of the sound constructed in the author's department. The size used is recorded. *B*, outline of the apparatus composed for continuous suction.

balloon is likely to be situated deeper. In such cases the remaining part of the tube will enter the intestine in a few hours.

No considerable success should be expected from suction therapy unless marked distention is present. The majority of patients with ileus will, after surgical removal of the causative factor, soon be restored without any special therapeutic measures, as most patients will after laparotomy performed for some other disease. It would be superfluous to apply suction treatment to such patients. Patients with ileus should be carefully observed, and, if disorders in the circulation or the fluid-electrolyte balance occur, suitable treatment should be immediately administered. Penicillin and other antibiotic drugs are given to most patients. If the first signs of distention appear, suction is to be applied. In cases of seemingly mild distention, the beginning of suction treatment should not be delayed until severe symptoms occur, the prognosis being occasionally fatal. If increased accumulations of gas or fluid are shown by roentgen rays or peristalsis cannot be set in motion, the Cantor tube should be introduced immediately. In cases of severe involvement with severe distention, suction therapy is applied before the operation, soon after admission of the patient. These principles hold true of all cases of ileus, both mechanic and dynamic.

Of my 161 patients with ileus due to adhesions, 53, i.e., one-third, were treated with a Cantor tube. Obviously, those most severely affected were so treated, and it is for this reason that the mortality rate is higher in the group treated with the tube than in the total group of patients with mechanical ileus. Similar results have been obtained by Bollinger and Fowler, who applied suction to 64 of 205 patients with ileus of the small intestine. Suction therapy was still less frequently applied in cases of excarcerated hernia. I operated on 139 patients for this condition, and suction was administered to only 5, in whose cases severe peritonitis was also present.

The indications for suction therapy are summarized in Table 1. The note in the margin of the table refers to the points of view aforementioned.

A few authors, most of them American, have tried to bring about functional restoration in cases of mechanical ileus by a conservative approach, applying suction therapy without operation. In his mono-

TABLE 1.—*Indications for Suction Therapy*

Type of Ileus		*As Sole Therapy*	*With Other Therapy*			*Other Treatment*	*Comment*
			before operation	*during operation*	*after operation*		
Mechnical	Strangulating	Strictly contraindicated!	Indicated, but the tube need not be passed through the pylorus	If possible the pylorus should be passed by means of manipulations through laparotomy	Indicated. The pylorus should be passed	Immediate operation! Transfusion, restoration of fluid and electrolyte balance	Mild conditions recover without suction. Suction therapy is used only for marked distention
	Simple	Can be tried. Precaution: during suction the characteristic symptoms of ileus disappear and the right time for operation may be overlooked	Indicated. In severe cases the pylorus can be passed during the operation	If possible the operation should be performed after effective decompression	Indicated.	Surgery, after administration of fluid, electrolyte and transfusion. If necessary all these measures to be continued during and after operation	
Dynamic	Paralytic	Indicated, but not sufficient	Indicated			The cause must be eliminated with operation, antibiotics or other appropriate methods. If necessary transfusion, fluid, and electrolyte administration	
	Spastic	Indicated if distention is present	Indicated, if distention is present				

graph on the subject, Wangensteen contended that there are two approaches to the causal therapy of ileus, namely, suction treatment and operation. With regard to this opinion, some authors have cited the misuse of suction therapy. In the material of Becker the mortality rate of ileus of the small intestine was 11.8 per cent, whereas in a group of 58 cases characterized by the previous "misuse" of suction therapy 38.4 per cent of the patients died. Bollinger and Fowler stated that conservative suction therapy must not be continued for more than twenty-four hours, after which time operation becomes imperative, the mortality rate of operations done after a decompression lasting more than twenty-four hours being considerably increased.

Suction therapy in this department was never considered "causal." It has seemed to me and my co-workers that relief of distention through suction eliminates the most important pathologic factor in ileus. The ultimate cause of the changes, however, is not influenced. The ultimate cause persists even in those cases in which the suction occasionally results, by abolishing angle formation, in restitution of the passage. If, however, the hindrance of passage is due to an inflammatory factor, the inflammation may heal during suction therapy.

In Table 1 the indications for suction therapy as a single procedure are enumerated separately. They have been worded cautiously, with reservations. This method is imperative, the aim of ileus therapy invariably being the removal of the cause, without which the life of the patient may be seriously endangered.

In cases of mechanical ileus, suction therapy alone is strictly contraindicated if the ileus is due to strangulation. In cases of simple ileus due to causes other than strangulation, an attempt may be made with suction. It is, however, often extremely difficult to differentiate between these two types of ileus. Difficulties may arise from the fact that the characteristic symptoms of ileus occasionally disappear during suction. The problem of determining operative indications, therefore, is to be decided before suction therapy is begun, the decision becoming more difficult when the suction has already been established. In this department, suction without operation is done rarely, and with much precaution. In the majority of cases it is employed as a preoperative procedure only.

Otherwise, suction may be applied along in combination with other methods and with operation in all cases of ileus, if distention is to be relieved. Even when strangulation indicates immediate surgical intervention it may be useful to introduce the Cantor tube into the stomach and aspirate the gastric contents before operation, since the apparatus is available in the operating room. This may be done by an assistant while preparations for the operation are being made, so that no time will be lost. In such cases one should not try to pass the balloon through the pylorus in the usual manner. Instead of this, the stomach should be exposed and the tube, well palpable through the gastric wall, passed into the duodenum. Then the intestinal contents are, by gentle pressure, moved slowly upward into the duodenum, from which they are removed by the suction. In this manner the intestine can be thoroughly evacuated without danger of infection, which, aside from other advantages, facilitates closure of the abdominal wound. This procedure was employed in 14 cases, with very good results. After the operation, suction should be continued for some days, until postoperative paralysis of the intestines has disappeared and peristalsis has become normal.

Generally, ileus due to carcinoma of the large intestine cannot be relieved by sounding the small intestine, the Bauhi-

TABLE 2.—*Cases of Mechanical Ileus from Jan. 1, 1946 to Dec. 31, 1957*

	Period before introduction of			the Cantor Tube Period since		
	No. of cases	Died	%	No. of cases	Died	%
Mechanical ileus due to adhesions or other causes	36	11	30.5	161	35	21.7
Excarcerated hernia	24	6	25.0	139	17	12.2
Ileus due to carcinoma of the colon	7	4	57.1	28	11	39.2
Total	73	21	28.7	328	63	19.2

During the whole period: treated, 401; died, 84, i.e., 20.9%.

nian valve forming an obstacle to evacuation of the engorged colon. In such cases the tube is employed only exceptionally, if distention of the small intestine due to the failure of the valve is present. Of course, the preparation of an artificial anus will not be rendered superfluous by the application of suction. I have had but 3 patients belonging to this group.

Table 2 shows that the lethality of ileus has decreased since the introduction of intestinal sounding with the Cantor tube. Naturally, these results must not be attributed to the application of the tube only. Modern methods of blood transfusion and the abundant administration of antibiotic drugs may also have played a role. The fact that the lethality of excarcerated hernia and carcinoma of the large intestine has also decreased may be evaluated in the same sense, i.e., with the qualification that suction therapy plays but a minor role in the treatment of these conditions. Generally speaking, the lethality of ileus in my own material is almost identical with that observed by the majority of authors who have reported on unselected material since the advent of suction therapy (Wangensteen).

2. Paralytic ileus is most frequently due to peritonitis. In the treatment of this condition a considerable role is played by suction therapy. The therapy of severe general peritonitis has made great progress during the past two decades. Intravenous drop infusion and, later, transfusion therapy, have a prominent part in combating the shock due to peritonitis. Further progress has been made by the regulation of fluid and electrolyte balance. Directly after the adoption of these procedures, the course of peritonitis changed considerably; the *facies hippocratica* has disappeared, and rapid improvement of the general condition of the patient has been observed.

Another great advance is due to the administration of sulfonamides and anti-

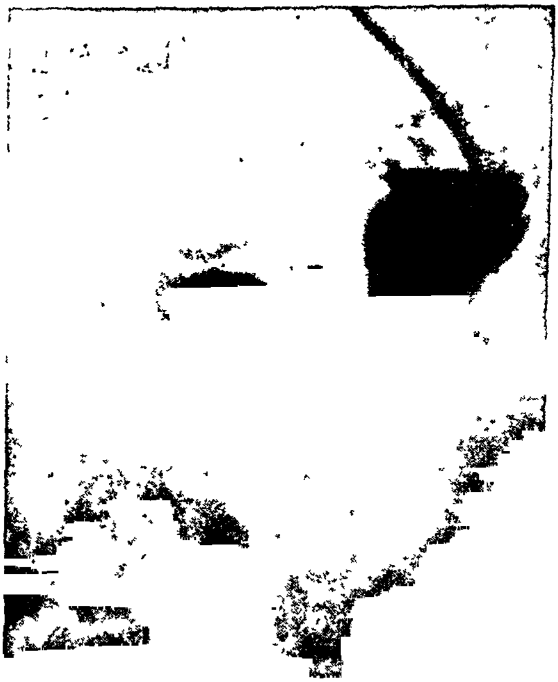

Fig. 2.—Sound still in stomach; balloon containing mercury has already passed by pylorus and carried initial part of tube into duodenum. Injected opaque material is in stomach, because part of the tube still lying in stomach is supplied with openings. In this position of sound, suction will result in complete withdrawal of ingested fluid. After a short time, balloon will draw entire section supplied with openings of tube into duodenum.

biotics. Owing to these drugs, infection may be combated. At present the patients are given all these drugs and paralytic ileus, to which little attention was formerly called, has become a predominating symptom. Today, patients do not succumb to the shock produced by peritonitis, and the administration of large quantities of antibiotics results, as has been observed at postmortem examination, in the fact that the peritonitis is mild; the serosa exhibits little change besides the loss of its lustre; fibrin is scanty, and the general anatomic picture is incomparably milder than that produced by severe peritonitis in the past. The predominating symptom is enormous distention of the bowels. It is for this reason that evacuation of the small intestine with the Cantor tube has become a weighty factor in the therapy of peritonitis.

As is indicated by Table 1, intestinal sounding is never contraindicated in cases of paralytic ileus. There is, however, one fact to be mentioned. In association with the intestinal paralysis following peritonitis, mechanical ileus, too, may occasionally develop. In 1 of my patients perforation of the vermiform appendix was followed by severe peritonitis, which was treated by all the usual methods. When distention of the bowels occurred, suction was applied. Though the suction was continued for a week, the distention recurred repeatedly. Mechanical ileus was not suspected until the last days; it was not demonstrable by roentgen examination, even with radiopaque material. The patient died on the tenth postoperative day. At necropsy, a false ligament causing strangulation of the ileum and mechanical ileus was observed in the site of the removed appendix. In this case the failure of suction therapy should have led me to assume that mechanical ileus was present as early as on the third or fourth day. It has become a principle since then that the failure of suction therapy after the fourth day may be a sign of simultaneous mechanical ileus.

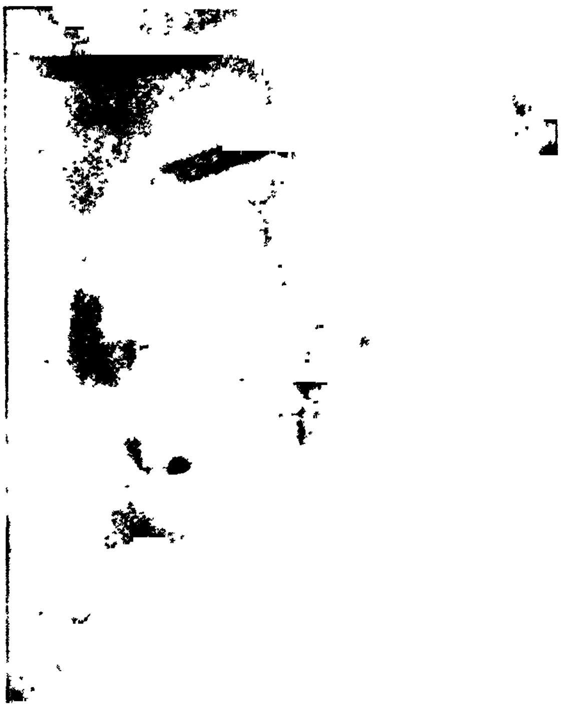

Fig. 3.—Large air cap above mercury. Balloon has been inflated and must be removed.

There being no basis for comparison, the statistical data listed in the tables allow few conclusions to be made as to the value of suction therapy. The mortality rate in this material was 28.2 per cent. On the other hand, the application of suction invariably brought about great relief, amelioration of the pulse and alleviation of the dyspnea in all patients treated.

The case of 1 of my patients, operated on for perforating appendicitis and severe peritonitis, may be regarded as characteristic. After operation, the pattern of severe peritonitis developed. Despite the abundant administration of penicillin, streptomycin, sulfathiazole, transfusions and infusions, as well as other drugs, distention appeared, and a Cantor tube was

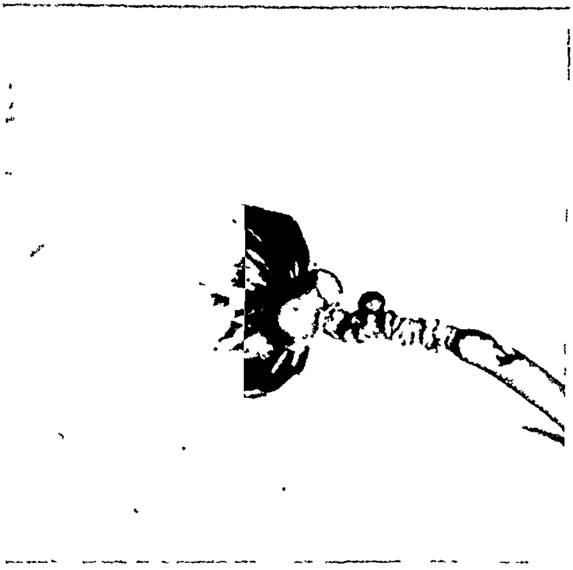

Fig. 4.—Inflated balloon.

applied. After four days, the condition of the patient became much better, and both suction and drug administration were discontinued. Two days later an attack of coughing resulted in dehiscence of the wound, and several intestinal loops were prolapsed. This event was not observed before the next morning, because the patient remained silent and the nurse had no reason to look after a patient who did not complain. The cleansing of the polluted intestines by that time was rather difficult. They have, nevertheless, been reduced. In the following days severe peritonitis and paralytic ileus occurred. Suction and all other forms of peritonitis therapy were applied, and it was possible to save the patient in five days. On both occasions distention was a predominating symptom, and the patient would undoubtedly have died if the Cantor tube had not been employed.

Although suction therapy represents great progress in the treatment of ileus, its improper administration may be followed by severe damage (Table 4).

1. First, in cases of acute abdominal catastrophe, all examinations needed for the diagnosis, or at least for an adequate decision as to treatment, should be performed. After all diagnostic means have been employed, and the problem of operative indication has been solved, suction therapy may be started. Otherwise the morbid picture can be obscured by the im-

Table 3.—*Patients Treated with a Cantor Tube*

	No. of Patients	Died	%
Mechanical ileus due to adhesions or other causes	53	12	22.6
Excarcerated hernia	5	4	
Carcinoma of colon	3	1	
Peritonitis	39	11	28.2
Pancreatitis	2	1	
Mesenteric thrombosis	1	1	
Total	*103*	*32*	*31.0*

Table 4.—*Erroneous Applications of Suction Therapy*

1. Suction is applied prior to the decision to operate. *Sequel:* Apparent improvement, fatal delay of operation.

2. Failure of suction in cases of paralytic ileus after 3 or 4 days, and, despite this, suction is continued. *Sequel:* Associated mechanical ileus remains unrecognized.

3. A worn-out or an improperly equipped sound is employed. *Sequel:* Tearing of the balloon or the tube; escape of mercury with the former.

4. Insufficient medical or nursing control. *Sequel:* The cessation of suction is not perceived when the tube is engorged, the suction apparatus does not function, a knot has formed on the tube or the tube has been withdrawn by a restless patient; the fluid balance has not been recorded, because of which the administration of the adequate drugs does not take place; the tube has not been moved to and fro to prevent decubitus; observation is inaccurate, decubitus or other complications remaining unrecognized.

5. Systematic roentgen examination is missed. *Sequel:* Overinflation of the balloon remains unperceived; removal of the balloon becomes impossible; the site of the tube and the degree of decompression are not correctly observed.

mediate effect of suction, as can the picture of peritonitis by morphine.

2. Paralytic ileus is, as a rule, the sequel of peritonitis due to a known cause, or of an operation. As has been mentioned, mechanical obstruction may also be present in such cases in a hardly recognizable form. If suction proves useless after some days, the occasional mechanical factor should be sought by injection of an opaque solution, and laparotomy should, if necessary, be carried out. Frequently in cases of this kind, an adhesion will be found which has led to engorgement by causing angulation of the distended bowel.

3. The third danger of suction therapy results from a fault in the sound. It can be prevented in most cases by using a newly prepared sound of good quality; in this way, breaking of the sound or the rubber sac may be prevented. Note that the latter, followed by passage of the mercury into the bowels, does no harm.

Earlier, mercury was not infrequently administered as a laxative drug.

4. Complications may ensue if the patient under suction therapy is not continuously controlled. A nurse experienced in suction therapy should constantly observe the patient, and a physician with special knowledge of this therapy should look after him every hour. At times, the tube is to be controlled by injecting some fluid through it, because it may become obturated. It should be kept in mind that the tube may give rise to a pressure sore, from which epistaxis, sinusitis, otitis, edema of the larynx or gastrointestinal bleeding may result (Lichtenstein). Fortunately, these complications occur very rarely; their significance is rather theoretical. In our material, decubitus in the esophagus was revealed at necropsy in 1 case only, though the sound was several times allowed to remain in place for a longer period. In 1 case sounding was continued, with short interruptions, for fifty-six days. In order to prevent decubitus, the tube should be moved to and fro at certain intervals, so that different areas of the mucosa will come into touch with it. If changes pointing to one of the aforementioned complications are observed, the tube should be removed immediately.

5. The patient undergoing aspiration treatment should be examined daily with roentgen rays. Roentgen examinations reveal the progress of the tube and show the degree of decompression. An air cap seen above the mercury is a sign that the balloon has become inflated (Fig. 3). Cantor has stated that diffusible gases may, under certain conditions, more readily enter into the balloon than stream from within outward. In this way, the balloon may become greatly inflated (Fig. 4). If this occurs, the tube should be immediately removed, since its removal later becomes impossible. In a case reported elsewhere the tube could not be removed without laparotomy. Fortunately, inflation of the balloon is a rare incident. It has occurred in 5 of my cases. When the inflation was observed, the tube was withdrawn with ease. If suction is still needed, another tube should be introduced.

Suction was not applied in our department except for severe conditions. The proper application of the procedure demands much work and endurance, as well as great attention, for many days. Nevertheless it deserves this labor, since by its application many patients have been saved who would have been lost without it.

SUMMARY

The indications for suction therapy and the results obtained in seven years are summarized. Suction therapy is considered a symptomatic treatment combating distention, with no claim that it corrects the cause of ileus. Its application without operation, therefore, should not take place except in rare cases and with much pre-

caution. It may, however, be applied to all patients with ileus, together with the proper operation and other procedures. In cases of ileus due to strangulation, the sound should, if distention is present and immediate operation is imperative, be introduced into the stomach before the operation. It need not be forwarded beyond the pylorus until this can be done by direct manipulation through the laparotomy opening. In this manner the bowel can be evacuated during the operation, which makes it possible to close the abdominal wound with ease. Much success has been attained by suction in cases of paralytic ileus due to peritonitis. Finally, the misuse of the Cantor tube is dealt with, and the methods of preventing complications are pointed out.

ZUSAMMENFASSUNG

Die Indikationen zur Anwendung der Magenabsaugung und die innerhalb von sieben Jahren damit erzielten Ergebnisse werden zusammengefasst. Die Saugtherapie wird als symptomatische Behandlung zur Bekämpfung der Auftreibung des Darmes angesehen und erhebt keinen Anspruch auf Ausschaltung der Ursahce des Darmverschlusses. Ohne Operation sollte die Saugbehandlung daher nur in seltenen Ausnahmefällen und mit grosser Vorsicht angewandt werden. In Gemeinschaft mit dem geeigneten operativen Eingriff und anderen Massnahmen ist sie jedoch bei allen Kranken mit Darmverschluss ausführbar. Bei durch Einklemmung hervorgerufenen Darmverschlüssen sollte die Sonde, wenn Auftreibung des Darmes vorliegt und unverzügliches operatives Eingreifen notwendig ist, vor der Operation in den Magen eingeführt werden. Es ist nicht nötig, die Sonde über den Pylorus hinaus vorzuschieben, bis dies durch direkte Manipulation im eröffneten Bauch ausgeführt werden kann. Auf diese Weise lassen sich die Därme während der Operation entleeren, was ein leichtes Schliessen der Bauchwunde ermöglicht. Gute Erfolge sind mit der Saugtherapie in Fällen von paralytischem Ileus bei Bauchfellentzündung erzielt worden. Schliesslich wird der Missbrauch des Cantorschen Schlauches erörtert, und Massnahmen zur Verhütung von Komplikationen werden angegeben.

RIASSUNTO

Vengono riassunti i risultati della terapia di aspirazione; questa deve essere considerata come un trattamento sintomatico per combattere la distensione addominale, senza pretendere che essa possa modificare la causa dell'occlusione, per questa ragione essa non deve mai essere impiegata, tranne in rari casi e con molta prudenza, se poi non si ricorre all'intervento chirurgico. Trova, dunque, indicazione in tutti i casi di ileo, associata all'intervento adatto e agli altri metodi di cura.

Nell'ileo da strozzamento con distensione e indicazione all'intervento d'urgenza, la sonda deve essere introdotta nello stomaco prima dell'intervento, senza bisogno di farla procedere oltre il piloro perchè ciò si può ottenere al bisogno più facilmente con manipolazioni intraoperatorie. L'intestino potrà così essere svuotato durante l'intervento e ciò renderà più facile la chiusura delle pareti.

I risultati migliori si ottengono nell'ileo paralitico da peritonite.

Viene descritto il tubo di Cantor e i mezzi per evitare le complicazioni eventuali.

RESUMEN

Se resumen en este trabajo las indicaciones y los resultados obtenidos en varios

años con la aspiración terapéutica. La aspiración es considerada como un tratamiento sintomático contra la distensión sin pretender que ello combata la causa del ilens.

Su fijación, pues, sin operación solo debe llevarse a cabo excepcionalmente y con muchas precauciones. Puede así ser aplicada a todos los enfermos en oclusión asociándola a la cirugía o a otros procedimientos. En los casos de ilens por extrangulación, si hay distensión y la operación es imperativa, debe coloc arse la sonda en el estómago antes del acto quirúrgico. No es precisco intentar que pase más allá del píloro ya que esto puede hacerse fácilmente por manipulaciones a través de la laparotomía. De esta manera pueden evacuarse las asas durante la operación lo que permite poder cerrar fácilmente la herida operatoria. Se han obtenido muchos éxitos en los casos de ilens paralítico por peritonitis. Finalmente se estudia el empleo equivocado del tubo de Cantor y la prevención de las complicaciones.

RÉSUMÉ

Les indications de la thérapeutique de succion et les résultats obtenus en 7 ans sont résumés. Cette thérapeutique est considérée comme un traitement symptomatique de la distension, sans pour autant remédier à la cause de l'iléus. C'est pourquoi son application devrait être évitée en l'absence d'une opération, sauf dans de rares cas et avec une très grande prudence. Elle peut cependant être utile chez tous les malades atteints d'iléus, associée à l'opération qui s'impose. Lors d'iléus par étranglement la sonde devrait être introduite dans l'estomac avant l'opération en cas de distension et lorsqu'il y a urgence opératoire. Il n'est pas nécessaire de l'amener au-delà du pylore avant la laparotomie. Les intestins peuvent ainsi être évacués durant l'opération, ce qui permet une fermenture aisée de la plaie abdominale. D'excellents résultats ont été obtenus grâce à la méthode de succion dans les cas d'iléus paralytique par péritonite. L'auteur discute enfin les mauvaises utilisations du tube de Cantor, puis il indique les méthodes propres à éviter les complications.

SUMARIO

Apresenta um sumario dos resultados obtidos pela sucção durante sete anos. Diz que a terapeutica por sucção e considerado um tratamento sintomatico para adistensão abdominal sem atingir a causa pode corrigi-la. Sem o posoperatorio suas aplicações são perigosas e devem ser feitas com extremo cuidado. Nos pacientes cirurgicos porem deve e pode ser sempre aplicada. Nos casos de ileo por estrangulamento pode ser feita por sonda intragastrica no preoperatorio. Nao deve ser levada alem do piloro de onde pode progredir por manipulação direta durante a laparotomia; dessa forma os intestinos podem ser evacuados durante a operação o que facilita a sutura parietal. Muitos sucessos tem sido conseguidos nos casos de ileo paralitico durante as peritonites: finalmente diz como o uso incorreto do cateter de Cantor pode ser evitado e os metodos preventivos de suas complicações.

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The Morning Toilet, by Pieter deHoogh. This unusual picture was painted in the seventeenth century. It is in the Amsterdam State Museum and is a good example of the work of this master of interior paintings, distinguished by their lighting effects. The brilliant sunshine pours in through the open window and lights the floors and walls. As a work of medical interest it is conspicuous in representing the cleanliness and hygenic habits of the Dutch. The mother is seen inspecting the kneeling child's head for pediculi. (*Reproduced by courtesy of the Rijksmuseum, Amsterdam, The Netherlands.*)

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Five Years of Conservative Treatment of Acute Appendicitis

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THE purpose of this study is to show that acute appendicitis can, with modern methods and technic, be safely treated conservatively.

In the years preceding 1953 most patients with acute appendicitis and abscess formation were treated conservatively in my surgical clinic at the Rotherham Hospital.

The results were so satisfactory that, with the advent of a wider range of antibiotics, further patients with acute appendicitis, without abscess formation, were treated conservatively.

A description is given of a five-year study showing that, in a hospital surgical clinic, acute appendicitis can be safely and satisfactorily treated by conservative measures.

Four hundred and seventy-one cases of acute appendicitis were treated conservatively, with 1 death, that of a man aged 78 who was a very poor surgical risk.

The Editorial Board of the Journal is aware that the author's theme may arouse controversy. In line with our policy of a fair hearing for all, however, we publish his article objectively, neither affirming nor denying the validity of his hypothesis.

The five years under review were 1953, 1954, 1955, 1956 and 1957 and fell into into three phases. The first phase covered 1953, 1954 and 1955, during which time all patients with acute appendicitis of longer than twenty-four hours' duration, admitted under me, were treated conservatively.

The second phase was 1956, during which year all patients with acute appendicitis admitted under me were treated conservatively. In any case of acute appendicitis in which the disease recurred after conservative treatment, appendectomy was performed. All patients were advised to have an interval appendectomy.

The third phase was 1957, during which year all patients with acute appendicitis admitted under me were treated conservatively. In any case of recurrence of acute appendicitis after conservative treatment, appendectomy was done. No interval appendectomy was done except at the request of the patient, the patient's parents or the family doctor.

Treatment.—The treatment given is rest in bed in any position the patient found comfortable; nothing of any description administered by mouth except water, which is given freely; six-hourly injections of penicillin, 250,000 units, and streptomycin, 0.5 Gm. In cases of severe involvement, chloramphenicol, terramycin or other antibiotics may be given as well. Pain is relieved by Pethedine and/or morphine, but usually little is needed after the first twenty-four hours. If vomiting

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is at all marked, gastric suction through a Ryle's tube is instituted; an intravenous drip is set up, and the total fluid intake and output are carefully balanced daily.

When the pain and sickness have subsided and the temperature and pulse have fallen, dextrose, milk and other fluids are given by mouth, and there is a gradual return to normal diet, varying in time according to the severity of the attack. No purgatives or enemas are given. Liquid petrolatum, ½ ounce night and morning, is given by mouth. As the condition subsides a glycerin suppository is used if necessary.

In cases of appendiceal abscess the same treatment is given, and usually resolution occurs. If this does not happen, a waiting policy is adopted until the abscess either comes up to the abdominal wall or can be palpated as a bulge in the pelvis. In the former case, when the percussion note is dull, the patient is placed under general anesthesia and a wide-bore needle is passed through the abdominal wall until pus can be aspirated. A stab incision is made with a scalpel along the needle; a large artery forceps is used to enlarge the stab; the pus is evacuated, and a small drainage tube is inserted. In my opinion it is a mistake to do a formal gridiron operation and open up the muscle and fascial planes. In last mentioned cases, the patient, under general anesthesia, is placed in the lithotomy position, the sphincter ani is dilated and the abscess is opened with a sharp-pointed sinus forceps at the point of fluctuation. No drainage is necessary.

Results (Phase 1).—In the years 1953, 1954, 1955, 137 patients with acute appendicitis of more than twenty-four hours' duration were treated conservatively, and only 1 died. This was a man aged 78 who was admitted with circulatory failure, edema of his legs and acute appendicitis. With conservative treatment the appendicitis settled down, pain and vomiting ceased, the temperature and pulse rate fell to normal and the tenderness, rigidity and distention disappeared. On the seventeenth day after admission, however, he began to get "chesty" and rapidly deteriorated, and on the nineteenth day he died of bronchopneumonia.

During these years, 609 appendectomies were performed for acute appendicitis of less than twenty-four hours' duration, for recurrent or chronic appendicitis, or during the course of operation for other conditions.

In 5 cases of appendiceal abscess, drainage was required. There were no deaths in those cases in which operation was performed.

Phase 2: During the year 1956, 163 patients with acute appendicitis were treated conservatively, and the mortality rate was nil.

Acute appendicitis recurring after conservative treatment was treated by appendectomy, and 22 such appendectomies were performed.

All patients were advised to undergo an interval appendectomy three or four months later, though many did not avail themselves of this advice. Forty-three interval appendectomies were performed.

During the year there were 14 cases of appendiceal abscess, in all but 2 of which the abscess settled down with conservative treatment. In 1 of the 2 patients in the exceptional cases it was opened *per rectum* and in the other through the abdominal wall.

During 1956 no patient with acute appendicitis, treated conservatively or by operation, died.

Phase 3: During the year 1957, 171 patients with acute appendicitis were treated conservatively, and the mortality rate was nil. In any case of acute appendicitis recurring after conservative treatment, appendectomy was done, and 26 such appendectomies were performed.

Interval appendectomies (9 were performed) were done only at the request of the patient, his relatives or the family doctor. During 1957 there were 10 cases of appendiceal abscess, all of which settled down with conservative treatment except 2. Both were opened through the abdominal wall.

During 1957 no patient with acute appendicitis, treated conservatively or by operation, died.

Total.—During the years 1953-1957, 471 patients with acute appendicitis were treated conservatively and there was only 1 death, that of the frail old man aged 78, previously mentioned.

There were no deaths among the patients who underwent appendectomy.

Further Considerations.—If, after careful thought, there is any serious doubt as to the diagnosis, and it is considered possible that the acute abdominal condition may be due to something other than acute appendicitis, operative treatment should be undertaken. During this study there were 3 such cases of doubt, in which operation was performed, but in each case the trouble was in the appendix. This provision is important, nevertheless, to insure that the conservative treatment of appendicitis shall not lead to an erroneous diagnosis and wrong treatment of less common acute abdominal emergencies, such as twisted ovarian cysts.

During the course of conservative treatment of severe appendicitis one sometimes notes distention of the abdomen, with dilated loops of small intestine, on a straight roentgen film. This is usually of a paralytic type and settles with treatment, but it is important to realize that mechanical obstruction with colicky pains and peristaltic waves, can develop during an attack of acute appendicitis, and that this necessitates operation. Two such cases were encountered during this study, and it is important that the condition be borne in mind, uncommon though it is.

If an appendiceal abscess fails to resolve with conservative treatment, and this does not happen usually with modern technic unless treatment is unduly delayed, it is necessary to drain it.

Thus there were four reasons for operative intervention in this study:

1. The patient or the doctor preferred operation.*
2. There was some doubt about the diagnosis.
3. Mechanical obstruction supervened.
4. An appendiceal abscess failed to resolve.

Apart from the aforementioned cases, all patients with acute appendicitis are taken on for conservative treatment without selection, some early, some late; some with mild, some with severe and some with extremely severe disease.

In most cases the condition settles down and resolves quite quickly—in a few days—and this applies particularly if the patient is admitted for treatment within the first twenty-four hours.

In cases of more advanced disease the resolution takes longer, and if an abscess is present it may take a month to subside fully. If the abscess fails to resolve and requires drainage it may take even longer. It is highly important to start treatment early.

The age of the patient has no bearing on the treatment. I have had many old and many young patients, including three infants who were extremely ill with peritonitis but who recovered, after giving all concerned rather a worrying and anxious time.

Advantages of Conservative Treatment.—Perhaps the most important advantages are the low mortality and morbidity rates.

Confidence in conservative treatment permits observation and time for investigation and consultation. This automatically leads to fewer mistakes in diagnosis and treatment. There are many conditions complicating acute appendicitis that may make conservative treatment and postponement of operation desirable. The winning of time to stabilize a diabetic patient, time for a failing heart to compensate, time for a pregnancy to continue to term, time for an attack of influenza to pass over, etc., may have fundamental and vital importance.

The winning of time for less vital matters, such as the reduction of gross obesity, the improvement of chronic bronchitis or even the postponement of operation for climatic reasons, may be important.

If an appendectomy is to be done, it is better done during a quiescent period; this minimizes the postoperative risks, such as suppuration in the abdominal wound, and later complications, such as ventral hernia, adhesions and mechanical obstructions.

The advantage most appreciated by the patient is the avoidance of a surgical operation. Most patients fear and dislike surgical operations and are grateful if they can be restored to normal by conservative treatment.

Disadvantages of Conservative Treatment.—Perhaps the most important disadvantage is the difficulty of diagnosis. In most cases, a clear-cut diagnosis can be made and no difficulty exists.

If there is an acute abdominal emergency and there is reasonable doubt as to the diagnosis, and if one's impression is that the patient's life may be in jeopardy, then a laparotomy should be done. It should be emphasized, however, that this does not often occur.

A lump in the right iliac fossa may be diagnosed wrongly as an appendiceal abscess when some other condition is present, e.g., carcinoma of the cecum, Crohn's disease, etc. Careful observation, investigation and follow-up should minimize the risks of this pitfall. Again, however, the chief safeguard should be a laparotomy if there is any serious doubt as to the diagnosis.

The argument has been raised that if an appendix is inflamed it will eventually have to come out anyway, so why not get on with it and remove it at once? In my opinion there are two answers to this. I have followed up many patients for many years, and a large number of them have had no recurrence and seem to be cured. This seems to apply particularly to those who had severe appendicitis, in whose cases the appendix shrivels up and withers.

The second answer is that, even if the disease should recur, the recurrence also can be treated conservatively. Perhaps the second attack may be the last. In 1958 I am treating all my patients with acute appendicitis conservatively; I am not doing appendectomies for recurrent appendicitis, unless requested by the patient or the doctor.

Clearly, if a patient has repeated attacks of appendicitis, then appendectomy is indicated.

There is one important qualification that I apply in this treatment. If the patient has had appendicitis and is going away from civilization, or even away from good surgical amenities, he should undergo an appendectomy.

Another disadvantage may be in the economic field. In a work of this sort, however, the ultimate aim is the good of the patient, and undue weight should not be given to economic considerations.

A patient with acute appendicitis taken early and treated conservatively can nearly always be restored to normal as quickly as by operation, if not more quickly. The period of convalescence is less and the return to work is quicker.

Those with severe appendicitis, taken late, can be difficult and troublesome after operation, and it is doubtful whether restoration to normal is quicker by operation than by conservation.

It is in the cases of recurrent appendicitis that there is an economic loss of the patient's time and of hospital bed space. In these cases I now continue to give conservation treatment unless operation is requested by the patient or his doctor.

SUMMARY

A description is given of a five-year study showing that, in a hospital surgical clinic, acute appendicitis can be safely and satisfactorily treated by conservative measures.

Four hundred and seventy-one cases of acute appendicitis were treated conservatively, with 1 death, that of a man aged 78 who was a very poor surgical risk.

Within the present generation, with modern treatment and technic and the assistance of antibiotics, many infections, both general and local, are being conquered. This applies alike to medical and surgical conditions.

Within the abdomen, acute cholecystitis and acute salpingitis are amenable to conservative treatment, which is now accepted as routine by most surgeons.

It is the purpose of this paper to show that acute appendicitis is amenable to conservative treatment; that conservative treatment may save the patient from an appendectomy; that if an appendectomy has to be done, it should be done in the quiescent interval.

In the long run it is perhaps a question of the patient's ability to overcome the virulence of the microorganisms. Surgical intervention in cases of severe involvement would otherwise be perilous indeed, and it is in this respect that the antibiotics have tipped the scales in the patient's favor, and rendered the conservative treatment of acute appendicitis safe.

Author's Note: I acknowledge with gratitude the help I have received from my Surgical Registrars and my nursing staff, without whose help, skill and co-operation, this work would not have been possible.

RIASSUNTO

Dopo 5 anni di osservazioni viene data la dimostrazione che in un reparto chirurgico l'appendicite acuta può essere benissimo trattata in maniera conservativa.

In tal modo sono stati trattati 471 casi, con un solo decesso (un uomo di 78 anni in pessime condizioni).

Molte infezioni sono state dominate in questi ultimi anni dalle moderne tecniche dell'assisitenza con antibiotici, e ciò tanto nel campo medico che in quello chirurgico. La colecistite acuta e le salpingiti acute possono essere comprese fra le malattie da trattare conservativamente, e ciò è già in atto per molti chirurghi.

Scopo di questa nota è quello di dimostrare che anche l'appendicite acuta rientra in questo gruppo, che la cura medica può salvare i malati, che se si deve fare l'appendicectomia, è meglio farla a freddo.

Probabilmente il problema è se il malato ha la capacità di opporsi alla virulenza dei germi; l'intervento chirurgico, pertanto, può essere pericoloso, e sotto questo aspetto gli antibiotici, invece, si dimostrano del massimo vantaggio.

RESUMEN

En este artículo se hace referencia a un estudio a lo largo de 5 años en un hospital quirúrgico, demostrando que la apendicitis aguda puede ser curada segura y satisfactoriamente con el tratamiento conservador.

Cuatrocientos setenta y un casos fueron sometidos al tratamiento médico, muriendo solamente un anciano de 78 años que ya venía en muy malas condiciones.

Durante la última generación, con la aplicación adecuada de la técnica y la asistencia de los antibióticos se ha logrado dominar muchas infecciones. Esto se refiere tanto a las enfermedades médicas

como a las quirúrgicas. En el abdómen las colecistitis y las salpingitis agudas son hoy fustificables de tratamiento médico lo que ya es aceptado hoy como rutina por muchos cirujanos. El propósito de este trabajo es mostrar cómo la apendicitis debe ser curada por métodos incruentos que libran al enfermo de la apendicentomía, que puede dejarse para ser practicada en frío.

En la carrera para vencer la enfermedad la cuestión es la facilidad del enfermo para vencer la virulencia de los microorganismos. La intervención quirúrgica en los casos graves puede ser muy peligrosa y es en este punto en el que los antibióticos han ayudado a inclinar la balanza del lado del enfermo haciendo mas seguro el tratamiento conservador.

SUMARIO

O trabalho é uma descripção completa a base de um esudo de cincoanos no material da clinica cirurgica do hospital em que se comprova que a apendicite aguda pode ser tratada segura e satisfatoriamente pelos metodos conservadores.

Quatrocentos e cincoente e um casos foram tratados conservadoramente com apenas u'a morte ocorrida em um homen de 78 anos que foi admitido em condições muito precarias.

Durante esta ultima geraçao muitos casos de infecçoes gerais e locais pela administração de antibioticos e a tecnica moderna tem sido tratados com sucesso. Esta conduta tem tido aplicação medica e cirurgica. A colecistite aguda e a salpingite aguda são trataveis conservadoramente, conduta hoje rotineira em muitos serviços cirurgicos.

Esta trabalho demonstra bem de como a apendicite aguda poder ser tratada sem operação e que essa conduta pode salvar o paciente de uma apendicectomia e que, se essa operação tiver que ser feita podera ser realizada no periodo de acalmia.

Durante a evolução tardia tudo depende da capacidade do individuo em vencer a virulencia dos microorganismos. Por outro lado a intervenção cirurgica em alguns casos podera ser muito perigosa e e nestes casos em que a antibioticoterapia torna o tratamento conservador de escolha como o metodo mais seguro.

ZUSAMMENFASSUNG

Es wird über eine fünfjährige Untersuchung berichtet, die den Nachweis liefert, dass die akute Blinddarmentzündung in einer chirurgischen Krankenhausabteilung sicher und zufriedenstellend mit konservativen Massnahmen behandelt werden kann.

Unter 471 konservativ behandelten Fällen von akuter Blinddarmentzündung kam nur ein Todesfall vor, wobei es sich um einen 78 jährigen Mann in sehr schlechtem Zustand für einen chirurgischen Eingriff handelte.

Während des Lebens unserer Generation ist es gelungen, mit moderner Behandlung und Technik und mit Hilfe der Antibiotika vieler allgemeiner und örtlicher Infektionen Herr zu werden. Dies trifft sowohl für medizinische als auch für chirurgische Erkrankungen zu.

Unter den Bauchzuständen sind die akute Gallenblasenentzündung und die akute Eileiterentzündung konservativer Behandlung zugänglich, die jetzt, von den meisten Chirurgen als das routinemässige Verfahren angenommen wird.

Die vorliegende Arbeit beabsichtigt nachzuweisen, dass sich die akute Blinddarmentzündung konservativ behandeln lässt, dass auf diese Weise dem Kranken eine Blinddarmresektion erspart werden kann, und dass eine Appendektomie, falls sie ausgeführt werden muss, im anfallsfreien Intervall vorgenommen werden sollte.

Letzten Endes kommt es wohl auf die Frage hinaus, ob der Patient imstande ist, der Virulenz des Krankheitserregers Herr

zu werden. In schweren Fällen kann ein chirurgischer Eingriff zweifellos gefährlich sein, und in solchen Situationen haben sich die Antibiotika als wohltätig für den Patienten erwiesen und die konservative Behandlung der akuten Appendizitis als ein sicheres Verfahren etabliert.

RÉSUMÉ

L'auteur décrit une étude ayant portè sur cinq ans et montrant que dans une clinique chirurgicale l'appendicite aiguë peut être traitée sans danger et de façon satisfaisante par des mesures conservatrices.

471 cas d'appendicite aiguë ont étè ainsi soignés avec un seul décès, celui d'un homme de 78 ans dont l'état comportait un risque chirurgical élevé.

Les traitements et les techniques modernes, les antibiotiques, permettent de guérir nombre d'infections aussi bien générales que locales, médicales que chirurgicales, qui, avant cette époque, auraient été fatales.

En ce qui concerne la cavité abdominale, la cholécystite aiguë et la salpingite aiguë sont justiciables du traitement conservateur, actuellement couramment appliqué par la plupart des chirurgiens.

Le but de l'auteur est de démontrer que l'appendicite aiguë réagit favorablement au traitement conservateur qui permet d'éviter l'appendicectomie; si une appendicectomie s'impose malgré tout, elle doit être pratiquée à froid entre deux crises aiguës.

Il s'agit en fin de compte peut-être du pouvoir de résistance individuel à la virulence des micro-organismes. Une intervention chirurgicale est certainement périlleuse dans les cas graves, et c'est là qu'interviennent les antibiotiques faisant du traitement conservateur de l'appendicite aiguë un traitement sans risque.

◆

The ancient Greek sufferer usually repaired to one of the temples of Aesculapius, the god of healing, where the priest kindled his imagination and his hopes by reciting the deeds of Aesculapius and all the wonderful cures he had effected. The patient was then purified by a bath in the mineral springs and, after the sacrifice of a cock before the image of the god, was taken into the sanctuary of the temple, where the special rite of temple sleep took place. The patient was given a sleeping-potion which caused him to sleep soundly, and usually to have vivid dreams. On awakening on the morrow, he told his dream to the physician priest, who gravely interpreted it and prescribed a course of treatment to cure his particular disease.

—*Major*

Aortic Transplantation with Silicone Rubber Tubes

An Experimental Study

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The authors report an experimental study in which tubes of silicone rubber, a water-repellent and biologically inert material, was substituted for certain segments of the aorta in a series of 13 dogs. Their procedure and its results are described, and two complications—thrombosis at the suture lines and hemorrhage through the fabric—are discussed. Of the thirteen grafts, eight remained patent and the others became obstructed. It is suggested that, if silicone rubber can be improved by increasing its resistance to traction, it may become a promising material for such prostheses.

A NUMBER of studies of arterial substitutes transplanted into human and animal aortas has been reported.[1] Homografts and synthetic plastic tubes, such as nylon,[2] Vinyon-N, Teflon,[3] Dacron[4] and Orlon[5] have been tried and have proved successful as conduits of blood. Occasionally, however, rupture, aneurysm formation and degenerative changes have been associated with these grafts,[6] which have aroused interest in other materials, such as leather,[7] polyvinyl sponge,[8] etc. In our previous experience with silicone rubber tubes in the canine thoracic inferior venae cavae the tubes had functioned well up to thirty days.[9] The main failure was due to gradual contraction of the graft instead of thrombosis. The high blood pressure in the arterial system seemed to withstand the stenosis better. This stimulated us to try the silicone tube as an arterial prosthesis.

Material.—Silicone is an organic derivative of silica (SiO_2). Silicones are known to have resistance to various chemical solvents, to increase surface resistance and to be highly water-repellent. These materials are subdivided into (1) fluids, (2) compounds, (3) resins and (4) rubberlike products.[10] The last group includes elastomers, pastes and rubber products, all of which, basically, have a continuous series of linear polymers of organopolysiloxanes $[CH_3\ SiO\text{-}]_n$ as its chief component. Experimentally, various types of silicone compounds in fluid and vapor have

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been tested by dermal, subcutaneous, oral, tracheal and intravenous routes which proved to evoke little reaction and toxicity.[11] One of the silicone rubbers, TS-962,* is water-repellent and flexible. Tubes of two different types, with internal diameters of 0.7 and 0.9 cm. respectively, were tested. These tubes were 0.2 cm. thick, brown and nontransparent (Fig. 1). Prior to use, they were boiled in hot water for five minutes.

Method of Experimentation.—Thirteen adult mongrel dogs were used. After intravenous anesthesia had been induced with pentothal sodium (30 mg. per kilogram of body weight), the chest or the abdomen was sterilized with iodine. Six grafts were inserted into the thoracic portion of the aorta after mild hypothermia had been obtained by immersion. The left side of the chest was opened at the fifth intercostal space under endotracheal positive pressure of oxygen controlled manually. The thoracic portion of the aorta below the left subclavian artery was mobilized to a length of 5 cm. after a few pairs of intercostal arteries had been divided. Seven straight grafts were transplanted into the abdominal portion of the aorta below the renal and common iliac arteries.

A segment of aorta 1 cm. long was resected, and a straight silicone rubber tube without cuffs, averaging 2 cm. long, was transplanted into the defect. Simple continuous over-and-over stitches, interrupted by two anchoring silks at both corners, were used for the anastomosis. The circulation was interrupted for about thirty minutes. No anticoagulants were used, except for sodium citrate at the grafting procedure. Aqueous penicillin, 200,000 units, was used only at the close of the operation. The femoral pulse was palpated daily, and in some cases arteriographs were taken to test its patency. Gross and microscopic studies were carried out in all cases in which autopsy was performed.

Results.—Thirteen grafts were followed from one to thirty-seven days, as is shown in the accompanying table. All grafts in the thoracic portion of the aorta were patent. Of 6 dogs, 4 died in the immediate postoperative period from shock and cardiac arrest following release of the clamp by profuse bleeding, which occurred at the suture line before it was kept under control. Delayed bleeding occurred in 1 dog, on the tenth day, from a hole in the distal anastomosis. The coexisting empyema was considered the cause of breakdown. Of 7 grafts in the abdominal portion of the aorta, only 2 remained open twenty-four and thirty-seven days respectively. One dog showed hindleg paralysis on the day after the operation. At autopsy, the leg was observed to be completely thrombosed. Despite the fact that palpable femoral pulses were obtained in all but 1 subject, various lengths of thrombus occluded the lumen in a thirty-day period.

Macroscopically, the inner surface of the patent grafts was immediately covered over with a thin, glistening blood layer, which increased in thickness up to 1 to 2 mm. within three to four weeks. At any period in which autopsy was done, this newly formed intima was attached only to the suture line. Otherwise, if one opened the tubes longitudinally, it easily detached itself from the graft (Figs. 2 and 3).

Histologic sections of the patent grafts revealed that organization of the inner layer started from the host side and proceeded toward the central part of the graft. Active fibrocyte reaction occurred closer to the graft than to the layer facing the blood stream. This process started in less than two weeks and became organized but not yet completed in the case observed for the longest period, thirty-seven days (Fig. 4). The encapsulating fibrous tissue was rather heavy and did not adhere to the graft. Slight foreign body reaction was noticed only around the silk sutures used for the anastomosis. Examination of the occluded grafts demonstrated that the thrombus always occurred at the suture line.

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*TS-962 and TS-900 were obtained from the Shibaura Denki Co., Horikawacho, Kawasaki, Kawagawa, Japan.

COMMENT

Silicone rubber is quite different from the ordinary artificial or raw rubber product. Boiling does not alter its nature, it evokes only minimal tissue reaction in the body. Owing to the resilience of the tube, it can be sutured into the arterial defect with ease. It is nonporous. At present, porosity in a blood vessel substitute is considered advantageous, promoting early healing of the internal lining of the graft, which is important to ultimate success. Considering the occasional uncontrollable bleeding through the porous synthetic fabrics, however, the fear and danger of hemorrhage during transplantation can be excluded with this type of tube.

Our study revealed that this material may be used as a vascular substitute if certain points can be improved; i. e., the major disadvantage of silicone tubes in our hands was its lack of resistance against a longitudinal pull during transplantation of the graft. When the suture line was tightened during anastomosis or after blood had been permitted to flow

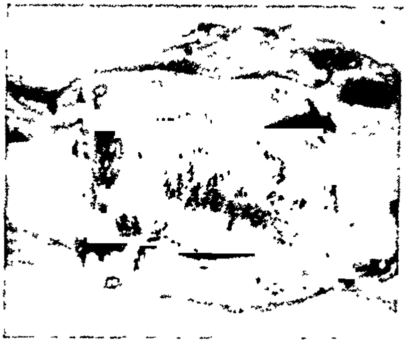
Fig. 3.—Silicone rubber tube transplanted for thirty-seven days in abdominal aorta of dog. Newly formed fibrin layer covered inside, which was not adherent to graft.

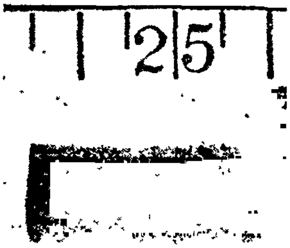

Fig. 1. — Outside view of silicone rubber tube.

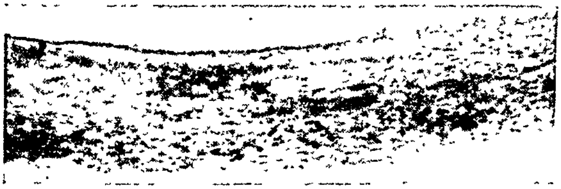
Fig. 4.—Photomicrograph of fibrin layer which covered graft (bottom) after five weeks. Endothelioid cell grew from host (right) toward middle of graft (left). Replacement of thrombus with fibrous tissue is in progress. (Hematoxylin and eosin stain.)

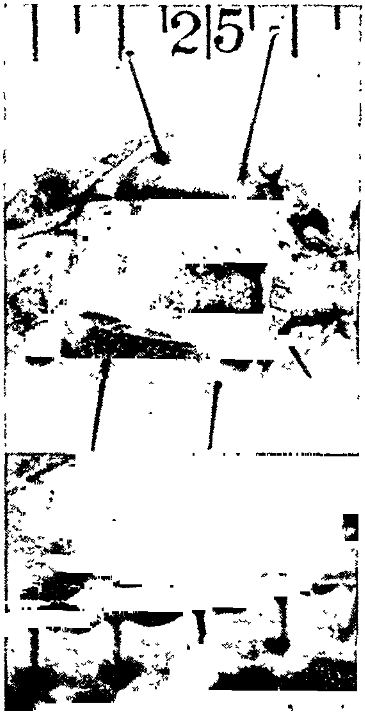

Fig. 2.—Gross specimen of graft implanted for 24 days in dog abdominal aorta. Owing to discrepancy of host vessel and tube, mural thrombus partially filled graft. Smooth, glistening fibrin layer lined it. Good patency was noted by postmortem arteriographic study. Graft is slightly visible.

Results with Silicone Rubber Tubes in Canine Aorta (13 Cases)

Dog No.	*Vessel*	*Follow-up (Days)*	*Results*	*Cause of Death*	*Comment*
1	Thoracic aorta	2	Patent	Postoperative shock	Thin fibrin lining inside graft
2	Thoracic aorta	0	Patent	Cardiac arrest	No thrombus
3	Thoracic aorta	0	Patent	Postoperative shock	No thrombus
4*	Thoracic aorta	1	Patent	Postoperative shock	Small mural clot at proximal anastomosis
5*	Thoracic aorta	19	Patent	Unknown	Smooth intima lining
6	Thoracic aorta	10	Patent	Empyema and Bleeding	Distal suture line broken
7	Abdominal aorta	24	Patent	Killed	Good intima lining
8	Abdominal aorta	23	Occluded	Killed	
9	Abdominal aorta	37	Patent	Killed	Good intima lining
10	Abdominal aorta	30	Occluded	Killed	
11	Abdominal aorta	12	Occluded	Killed	
12*	Abdominal aorta	3	Stenosed	Killed	90 per cent occluded
13*	Abdominal aorta	5	Occluded	Killed	Hindleg paralysis

*Grafts coated with silicone fluid (TS-900).

through the graft, the stitches occasionally cut through the tube and caused considerable bleeding. To prevent this complication, extra stitches had to be placed to stop the bleeding, or a rather large stitch was placed in the tube from the beginning. This exposed more silk in the lumen and contributed to the high incidence of thrombosis. Prior to use, four of thirteen tubes were immersed in a volatile silicone fluid (TS 900†) to make it more blood repellent, but thrombosis at the suture line could not be prevented. The incidence of thrombus in those subjects which survived more than three days was over 44 per cent (4 of 9 cases). This result corroborates Egdahl's report.[12] In his opinion, however, the slight irregularities of the internal surface of the tube were the chief cause of clotting.

Our previous experience with a silicone tube in the venae cavae has shown that excellent patency is maintained for fifteen days at least, without a failure and without severe bleeding at the suture line. This may have been due to the low blood pressure in the venous system. If the tube can be given stronger elasticity, it can be expected that its future use as an arterial graft is to be expected.

SUMMARY AND CONCLUSION

Silicone rubber is highly water-repellent and biologically inert. Its value as material for a vascular prosthesis was tested by transplanting a tubular segment into the abdominal and thoracic aortas of dogs, which were then observed for periods ranging up to thirty-seven days.

Of 13 grafts, 8 were patent, while the other 5 were obstructed. In the patent grafts the inner surface was immediately covered with a thin blood film, which became partly organized ten days later, and the process continued up to five weeks. An endothelioid cell grew over from both anastomoses and covered the fibrous membrane.

The failure of the grafts was due primarily to bleeding and thrombosis at the suture line, with tearing of the graft where the silk pierced through. Extra stitches for reinforcement or a larger

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†See footnote on p. 263.

catch from the edge of the tube exposed excessive silk to the blood flow and led to clot formation. If the resistance of silicone rubber to pull can be improved, its use as an arterial substitute seems promising.

ZUSAMMENFASSUNG UND SCHLUSSFOLGERUNGEN

Siliziumgummi ist stark wasserabstossend und biologisch inaktiv. Seine Eignung als Prothesenmaterial wurde durch Transplantierung eines Röhrenabschnittes in die Bauchaorta und in die Brustaorta von Hunden, die danach über Zeiträume bis zu 37 Tagen beobachtet wurden, geprüft.

Von 13 Transplantaten waren acht durchgängig und fünf verstopft. Die innere Oberfläche der durchgängigen Transplantate wurde sofort mit einer feinen Blutschicht bedeckt, die sich 10 Tage später teilweise organisierte; dieser Vorgang setzte sich bis zu fünf Wochen weiter fort. Ein endothelartiges Zellgewebe wuchs von beiden Anastomosen und deckte die fibröse Membran.

Die Versager der Transplantate waren in erster Linie auf Blutungen und Thrombosen an der Nahtlinie mit Einrissen des Transplantats an den Stichstellen der Seidennaht zurückzuführen. Besondere zur Verstärkung angelegte Nahtstiche oder die Erfassung eines längeren Randes des Röhrenendes setzte eine übermässige Menge von Seide dem Blutstrom aus und führte zur Bildung von Gerinnseln. Wenn sich der Widerstand des Siliziumgummis gegen Zugwirkung erhöhen lässt, scheint seine Verwendbarkeit als Arterienersatz vielversprechend zu sein.

RÉSUMÉ ET CONCLUSIONS

Le caoutchouc de silicium est fortement hydrophobe et biologiquement inerte. Sa valeur comme matériel de prothèse a été contrôlée par la transplantation, chez le chien, d'un segment tubulaire dans l'aorte abdominale et thoracique, durant des périodes de contrôle allant jusqu'à 37 jours.

Sur 13 greffes, 8 bons résultats, 5 échecs. Dans les premiers cas (bons résultats), la surface interne s'est immédiatement recouverte d'une fine pellicule de sang, partiellement organisé 10 jours plus tard; l'évolution a duré jusqu'à cinq semaines. Une cellule endothéliale a recouvert la membrane fibreuse á partir des deux anastomoses.

Les échecs sont imputables en premier lieu au saignement avec thrombose au niveau de la ligne de suture, et déchirure de la greffe aux points de suture. Des points de suture de renforcement ou un fragment plus important à l'angle tubulaire opposaient une trop grande résistance à la circulation sanguine et provoquaient la formation de caillots.

Si l'on parvient à améliorer la résistance du caoutchouc de silicium et à le rendre moins extensible, son utilisation comme matière de remplacement des artères apparaît plein de promesses.

SUMARIO E CONCLUSOES

A borracha silicone é altamente repelente á agua e biologicamente inerte. Testou seu valor como material de protese transplantando segmentos tubulares nas aortas toracica e abdominais de cães observados por periodos de mais de 37 dias. De 13 enxertos 8 foram *eficientes* e 5 se obstruiram. Nos bons enxertos (transplantes) as superficies internas foram recobertas por uma camada fina de pelicula sanguinea, parcialmente organizada dez dias depois indo assim até cinco semanas. Celulas endoteliais cresceram em volta das anastomoses e se cobriram de membrana fibrosa.

A falha de inclusões foi devida primariamente ao sangramento e trombose na su-

tura, com deiscencia dos pontos. Resutura de reforço levou a expor excesso de seda a corrente sanguinea e deu formação de coagulos sanguineos.

Se a resistencia do silivone poder ser provada seu uso como material de substituição arterial parece promissor.

RESUMEN Y CONCLUSIONES

La goma de silicona no se moja con el agua y es biologicamente inerte; se prueba su valor como material de prótesis usándola como inferto arterial en la aorta abdominal o en la torácica del perro y observando la experiencia durante 37 días. De 13 casos, en 5 el tubo se obstruyó, mientras que en 8 quedó permeable; en estos casos la superficie interna del injerto se subre de una película fina de sangre que empieza a organizarse a los 1 días para terminar el proceso a las 5 semanas. La membrana fibrosa formada se recubre después de endotelio que crece desde los extremos.

El fracaso de los otros injertos se debió a trombosis y hemorragias en las suturas, y a desgarros del tubo en los puntos. La colocación de puntos de refuerzo cogiendo más borde del tubo expone demasiado lino a la corriente sanguínea, y lleva a la forción de coágulos. Si se pudiese mejorar la resistencia a la tracción de la goma de silicona su empleo como injerto arterial serít prometedor.

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When a disease has attained the crisis, or when a crisis has just passed, do not disturb the patient with innovation in treatment either by the administration of drugs or by giving stimulants. Let them be.

—*Hippocrates*

Genitourinary Surgery

Hypospadias: Its Repair in One Hundred Cases; Suggestion for Modifying the First Stage Repair

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SINCE hypospadias is one of the commonest of congenital anomalies, and since its repair has aroused such a voluminous and controversial literature, an additional report of experiences with one of the technics would seem valuable. My objective here is[1] to review briefly the problem of hypospadias repair,[2] to reiterate the basic plan of the Denis Browne repair and some of its pitfalls,[3] to report my results in 100 cases in which his technic was used, and (4) to suggest a simple variation of the first stage that appears to deliver the urethra through the glans without risk of further deformity and with little likelihood of adding complications.

Skin from the penis has been used in various ways for construction of the urethra (Thiersch; Duplay; Buchnall; Cecil and Davis). The author has observed the labor of their execution and the frequency of their complications. The designs using bladder mucosa, free skin grafts and scrotal skin, as well as those using vein transplants, etc., have either had obvious objections or have not seemed to suit his concepts. He has found the Denis Browne technic simple in execution, among the best in end results and as nearly free of immediate and late adversities as any reported.

In 1936 the English surgeon, Mr. Denis Browne, published his concept of an operation for the repair of hypospadias. By 1949 he had completed a sizable series of repairs. The first to report a series done in this country was Dr. Edgar Burns[1] in 1950. The concepts involved in this procedure stimulated some research and some blind criticism. Since then, however, many outstanding surgeons have endorsed the procedure[2] and have published reports of their efforts.

Classification of hypospadias according to the location of the anomalous meatus, has always aided in understanding the degree of problem to be encountered in its repair. Mr. Browne included, in his principles of a good technic, the precept that it should be capable of successful accomplishment in the presence of all degrees of deformity. With this in mind, classification as minor (glanular) and major hypospadias (all other degrees of deformity), as suggested by Havens and Black, would seem adequate.[3]

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In "minor hypospadias" no significant chordee exists, and the urinary and seminal streams are delivered to the glans. The only correction required is cosmetic. This can be accomplished by excision of the hooded prepuce and simultaneous correction of the meatus in such a manner as to permit delivery of the stream straight forward along the axis of the urethra. Mr. Browne[2] has pointed out that there is always present, in patients with this type of hypospadias, a short, blind urethra from the glans which can be joined by simple incision to the anomalous meatus. A fine scissors point is inserted into the meatus, and the thin separating tissue is incised.

In all cases of "major hypospadias" two problems present are encountered for correction: first, the omnipresent chordee, and second, the incomplete urethra.

Relief of the chordee is essential to satisfactory sexual function and to a respectable cosmetic result. The cause of the chordee has been subject to some controversy. It is generally observed[4] that there is congenital absence of the corpus spongiosum distal to the anomalous meatus. Instead of the corpus there is rather dense fibrous tissue, extending a foreshortened distance to the glans.

Whatever the observation in detail, it is obvious that the distance from the perineum to the ventral surface of the hypospadiac glans penis must be lengthened. If it is lengthened, some skin must be brought in to fill the defect. Figure 1 shows the modified Duplay method I use. In this procedure, a transverse incision between the anomalous meatus and the glans is carried laterally into the hoodlike prepuce. The fibrous tissue lying on the mesial margins of the corpora cavernosa and the fibrosa rudiment of what could have been the corpus spongiosum are excised *in toto* from the glans to well behind the anomalous meatus (Fig. 2). The latter is important, since at times it seems as though the meatus had been firmly attached too far forward on the corpora, and when adequately released it is allowed to fall back toward the perineum and add considerable release of the chordee. The transverse incisions are closed longitudinally (Fig. 4). On rare occasions too much tension on the circumferential skin will result, and a releasing incision on the dorsum becomes necessary, with no complicating aftermath. An adequate meatotomy must always accompany this preparation for a second-stage repair.

Other methods for the first stage have not lent themselves to satisfactory second-stage Denis Browne repairs and have been abandoned by me. Later in this paper I will briefly describe the little variations I am trying in order to develop a glanular urethra during the first stage.

The correction of chordee has presented some problems to me as well as to many other writers on this subject. I do not hesitate to repeat or revise if I find the correction inadequate. In the 100 cases studied for this report, the first stage was redone twelve times. In 3 patients with perineal hypospadias, three operations were done for acceptable results.

There are the two problems encountered in the correction of major hypospadias. The procedures devoted to the correction of chordee are generally described as first-stage operations and those devoted to the construction of the urethra as second-stage procedures. Under some of the schemes for construction of the urethra two more stages have been devised.

The objective after correction of chordee is to deliver the urine stream and the semen to the glans with as nearly perfect functional and cosmetic effect as possible. This should be done with a minimum of morbidity while eliminating late complications.

Amongst the technics in current use in the United States are those which use (1) transplants of bladder mucosa,[5] (2) transplants of the entire urethra from a cadaver,[6] (3) tubes of split thickness cutaneous homografts,[3] (4) full thickness scrotal skin and (5) many variations of technic using penile skin.[7]

Objections to these plans are raised according to the ability and temperament of the surgeon, and only by comparisons of the results can each surgeon choose that which pleases him best.

The Denis Browne plan attempts to construct the urethra to the glans in one stage, using the skin of the penis. The operation is so simple in its execution that every one of my local colleagues has been willing to undertake it after one demonstration.

Figure 5 shows how a u-shaped incision is made from behind the meatus to the glans, delineating a strip of skin about one-third the diameter of the penis. The strip is left untouched. According to the original scheme, two triangular areas on the glans are denuded of epithelium. The lateral skin is widely undermined by blunt dissection, as is the area proximal to the anomalous meatus. It is made certain that no epithelium persists between the undermined flaps and the triangular denuded areas on the glans. The lateral flaps (Fig. 6) are then approximated over the buried skin strips with the "double stop suture." Dermalon has been used, with either a glass or a wooden bead held in place by the crushed short aluminum cylinders. Fine chromic catgut is used to approximate the distal margins of the flaps to the denuded areas on the glans and to each other along the full length. The double stop sutures are applied very loosely as tension sutures and to keep the epithelium of the buried strips as far as possible from that on the surface. A simple perineal urethrostomy is usually done before the tube is constructed. A Malecot catheter is held in place with a heavy silk suture.

An incision is always made on the dorsum of the penis to allow relaxation of circumferential tension. It granulates in readily and produces no deforming scar provided it is not carried proximally far enough to include prepubic skin.

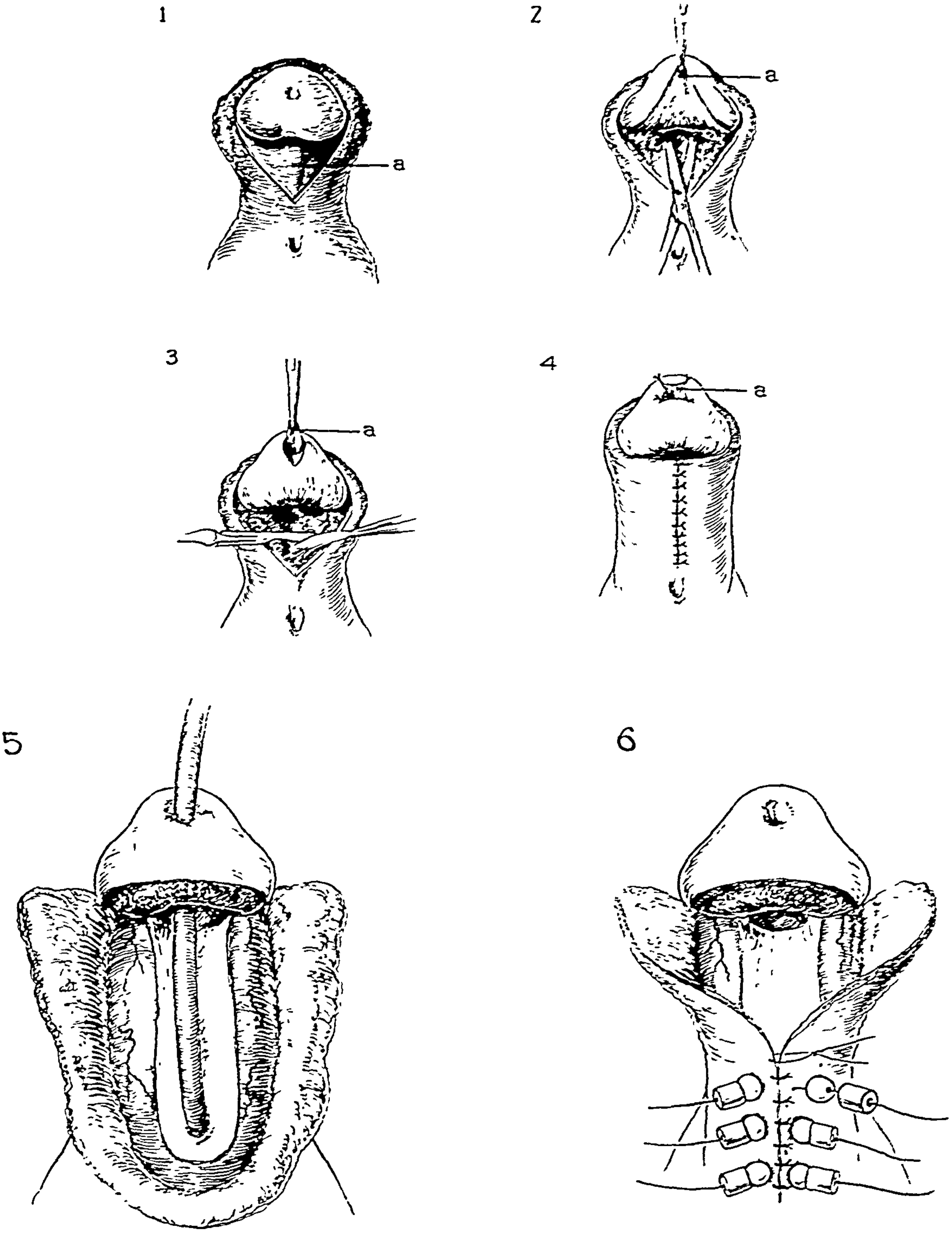
The double stop sutures are left in place for seven to twelve days and the perineal urethrostomy in place for two to four days longer.

In accordance with the tenets of Mr. Browne, the first stage has been done as soon after the patient is 18 months of age as conveniently arranged and the second stage as soon after he is 2½ years old as seems sensible—usually prior to school age.

In 100 patients treated by this plan there have been no failures. There were 12 patients who required further procedures for developing a satisfactory operative urethra. Stricture was never a cause of further surgical intervention, though in 3 cases, dilation of the meatus was necessary periodically for six months. Eight patients had fistulous tracts requiring one-stage repairs. One patient required three attempts for closure of a fistula. In 3 patients partial or complete separation of the flap margins occurred, necessitating a complete repetition of the second stage. In 1 patient infection developed, requiring disruption of the suture line on the fourth day and subsequent complete repair.

Of the 100 patients there were only 52 in whom healing of the flaps to the glans was satisfactory. The other 48 were left with the meatus at the level of the coronal sulcus.

The most irksome complication is not included in the evaluation of the statistics with reference to the new urethra. There were 8 patients who required separate operative efforts for secondary closure of the perineal urethrostomy wound. Two required more than one closure. In most cases this complication was associated with perineal hypospadias when the perineal tissue supporting the urethra was thin. For this reason, I have now adopted



Figs. 1, 2, 3, 4, 5 and 6 (see text).

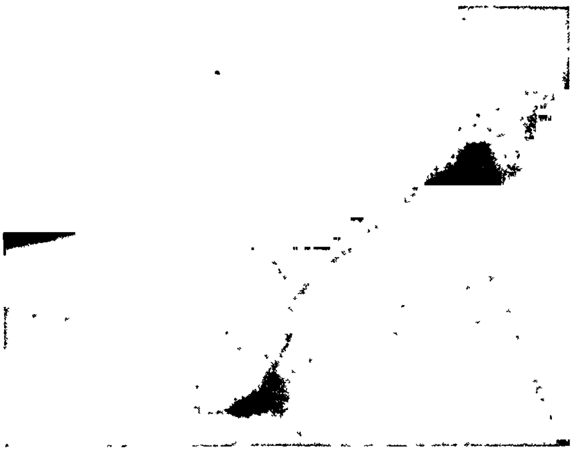


Fig. 7 (see text).

suprapubic cystotomy for drainage of urine in cases of extreme perineal hypospadias, and believe I may circumvent this complication.

All of the fistulous tracts were attributable to excessive tension on the double stop suture, resulting either in a tract through the site of the bead or to the site of a necrosed area of approximation. The strictures occurred when an inadequate meatus was allowed for on the glans. It may be that infection played a part in all of those with wound separation. It was rather thought to be the result of too great tension created by collected serum and edema. The stay in the hospital for the first stage in this series varied from one to twelve days, with an average of five days. For the second it varied from eleven to twenty-seven days, with an average of fifteen days. Fistula repairs required from two to twenty-three days of hospitalization, the average being nine days.

Complications

Patients with fistulas	8	(1 required 3 repairs)
Patients with wound separation	3	
Patients with infection and wound separation	1	
Patients with strictures	3	
Patients with persistent drainage from perineal urethrostomy	8	(2 required more than 1 closure

The failure of the urethra to terminate on the tip of the glans has not been regarded as a failure requiring a repeated attempt, since in cases of minor hypospadias this has never been an objective. Many of the other schemes for construction of the urethra have made no attempt to accomplish it. Further, it is apparent that Mr. Browne's basic plan does not really include the construction of a normal appearing meatus. Figure 7 demonstrates the usual end result.

This minor failing, nevertheless, has plagued me into another effort, which I have tried successfully in 3 patients. As can be seen from the illustration (Fig. 3) it is accomplished by tunneling through the glans and inverting through this tunnel the triangular flap of skin that has been raised near the glans during the dissection of the rudimentary corpus spongiosum. The full end of the flap (Fig. 6) is sutured to the margins of the stab wound in the tip of the glans. A fragment of tissue rubber drain is kept in place for seven to twenty-one days to aid in keeping this new "urethra" open.

At the time of the second stage the epithelium of the ventrum of the glans is denuded in the same manner as the triangular strips are made in the original Denis Browne repair.

In the 3 patients in whose cases it has been used (1 adult and 2 children), the resultant meatus had a normal appearance.

SUMMARY AND COMMENT

Skin from the penis has been used in various ways for construction of the urethra in schemes designed by Thiersch, Duplay, Buchnall, Cecil, and Davis. The author has observed the labor of their execution and the frequency of their complications. The designs using bladder mucosa, free skin grafts and scrotal skin, as well as those using vein transplants, etc., have either had obvious objections or have not seemed to suit his concepts. He has found the Denis Browne technic simple in execution, among the best in end results and as nearly free of immediate and late adversities as any reported. It is apparent that he has encountered more complications than did Mr. Browne,[2] who had obtained essentially perfect reports, supported by the investigations of Benght Johanson. Dr. Edgar Burns of New Orleans had fewer problems than are indicated in this paper. In this series, 12 per cent of the patients have required repeat operations for completion of the functional urethra; 3 per cent have had strictures that proved curable by dilation, and 8 per cent required secondary closures of the perineal urethrostomy. The total number of admissions to the hospital for construction of a urethra and closure of a perineal urethrostomy was 126.

ZUSAMMENFASSUNG

Die Haut des Penis ist auf verschiedene Weise zur Bildung einer Harnröhre nach den von Thiersch, Duplay, Buchnall, Cecil und Davis entworfenen Verfahren verwendet worden. Der Verfasser hat die Schwierigkeiten der Ausführung dieser Operationen und die Häufigkeit der auftretenden Komplikationen beobachtet. Vorschläge zur Verwendung von Blasenschleimhaut, freien Hauttransplantaten, Hodensackhaut, Venentransplantaten usw. habe entweder ganz offensichtliche Nachteile oder stehen im Widerspruch zu den Auffassungen des Verfassers. Er findet, dass die Denis Brownesche Technik einfach in der Ausführung ist, dass sie zu den Verfahren gehört, die die besten Endresultate ergeben, und dass unmittelbare oder späte Komplikationen fast niemals auftreten, jedenfalls nicht häufiger als bei irgendeiner anderen veröffentlichten Methode. Offenbar hat der Verfasser mehr Komplikationen gesehen als Mr. Browne, der, unterstützt durch Benght Johansons Untersuchungen, im wesentlichen ausgezeichnete Berichte erhielt. Dr. Edgar Burns aus New Orleans hatte eine geringere Anzahl von Problemen, die in dieser Arbeit angeführt werden. In dieser Serie erforderten 12 Prozent der Kranken wiederholte Operationen zur Fertigstellung einer funktionierenden Harnröhre, drei Prozent hatten Strikturen, die durch Dilatierung geheilt werden konnten, und acht Prozent erforderten sekundäre Schliessungen der perinealen Urethrostomie. Die Gesamtzahl der Krankenhausaufnahmen zur Bildung einer Harnröhre und Schliessung einer perinealen Urethrostomie betrug 126.

SUMARIO

A pele do penis tem sido usado de varias maneiras para construção de uretra de acordo com as tecnicas de Thiersch, Duplay, Buchnall, Cecil e Davis. O A. observou as dificuldades de execução e as complicações. Prefere usar a techni ca de Denis Browne porque e simples, apresenta resultados finais me lhores e esta livre de inconvenientes proximas e futuras. Refere tambem que teve mais complicações do que Denis Browne cujos resultados são extremamen te perfeitos conforme as investigações de Benght Johanson.[1] Dr. Edgar Burns de N. Orleans teve poucos problemas como se registra nesta comunicação. 12% dos pacientes tiveram que repetir a operação

para obter boa função; 3% tiveram estreitamente que cedeu por dilatações; 8% requereram sutura secunda ria da uretrostomia perineal. Os numerous de internações para esas operações foram de 126 veses.

RESUMEN

Para la uretroplastia ha sido usada la piel del pene en diversos procedimientos talas como, los ideados por Thiers, Duplay, Buchnall Cecil y Davis. El autor se ha dado cuanta de lo dificil de su empléo y de la frecuencia de las complicaciones. Los procedimientos a base de mucosa vesical, *injertos libres de piel, piél del escroto, transplantes venosos, etc. están también* llenos de inconvenientes de toda índole. Por el contrario el procedimiento de Denis Browne es de ejecución sencilla, da los mejores resultados y parece despro visto de complicaciones importantes inmediatas o tardías. Sin embargo el autor ha encontrado mas inconvenientes de los que cita el propio Browne. Edgar Burns, de N. Orleans, encuentra menos inconvenientes de los citados en este trabajo. En la serie de operados del autor 12% de los operados necesitaron repetidas intervenciones para conseguir una uretra funcional, 3% tuvienon estrechez que requirió dilatación y 8% hubieron de someterse a un cierre secundario de la uretrostomía perineal. El número total de admitidos al hospital para reconstrucción de la uretra y sutura de la uretrostomia perineal fue 126.

RÉSUMÉ

La peau du pénis a été utilisée de diverses façons pour la reconstruction de l'urèthre suivant les techniques proposées par Thiersch. Duplay, Buchnall, Cecil et Davis. L'auteur a pu observer de près leur exécution ainsi que la fréquence des complications qu'elles entraînent. Les techniques utilisant la muqueuse vésicale, les greffes de peau libre et la peau du scrotum, de même que les greffons veineux, etc, ont ou bien donné lieu à des objections évidentes ou bien n'ont pas paru correspondre à ses conceptions. C'est la technique de Denis Browne qui lui semble la plus simple à exécuter, parmi les meilleures quant aux résultats et pratiquement exempte de complications immédiates ou tardives, comparativement aux autres techniques décrites. L'auteur note qu'il a rencontré plus de complications que Denis Browne dont les rapports—corroborés par les recherches de Benght Johanson—indiquent des résultats parfaits. Le Dr. Edgar Burns, de New Orleans, s'est heurté à moins de problèmes que l'auteur de ce rapport. Dans les cas ici présentés, 12% des malades ont dû subir des réinterventions pour parachever la fonction uréthrale, 3% on présenté des rétrécissements dont la dilatation *a eu raison; 8 % ont nécessité une fermeture* secondaire de l'uréthrostomie périnéale. Le nombre total des cas hospitalisés (reconstruction de l'uréthre et fermeture d'une uréthrostomie périnéale) s'élève à 126.

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Operation for Stone, by Hieronymus van Aeken (1462-1516). (commonly known as Jerome Bosch). This picture is said to represent the operation for stone. and a group of figures can be seen on the right side, inspecting a stone in the palm of a man's hand. The exact meaning of the inspection of the patient's head which appears to be going on is uncertain, unless the "stone" was actually a sebaceous cyst of the scalp. Van Aeken lived about 1462-1516, and his subjects were always whimsical. often grotesque representations of spectres and devils. This picture may be illustrative of his choice. Most of his works are to be found in Spain. and Philip II of that country was said to be a great admirer of his works. (*Reproduced by courtesy of the Rijksmuseum, Amsterdam, The Netherlands.*)

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Acquired Vesicocolic Fistulas

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FISTULAS between the digestive and urinary tracts have been studied for a long time: since the first mention by Rufus of Ephesus in the third century; since the first studies by Blanguingue and Cripps in the nineteenth century, to the fundamental reports by Pascal, Kellog and Higgins and more recent studies. The reports are numerous.

Although vesicosigmoid fistula is not common, it is eventually encountered in every urologic department. The primary disease is usually in the bowel, most frequently diverticulitis. The authors describe the symptoms and suggest diagnostic procedures. One should not forget the possibility of an incipient fistula in a patient known to have colic disease and presenting symptoms of cystitis. Fistulas complicating sigmoid carcinoma present a problem, in that very extensive excision is required. When the fistula is secondary to a diverticulitis of the sigmoid, a curative operation can be done at one sitting. It is preferable, however, to operate after a transverse colostomy has been performed.

After personal observation of a recent case of sigmoidovesical fistula treated in this hospital, we reviewed the question of enterourinary fistula. We limited our study, in the important field ranging from duodenorenal to congenital fistulas, to acquired sigmoidovesical fistulas.

We should like to report here the results of our readings and of study of the charts of 7 such cases in which the patients were treated recently in Huron Road Hospital.

Etiologic Factors.—Excluding congenital fistulas, there are four types of lesion that can cause a fistula between the distal portion of the colon and the bladder:

1. Lesions of the bladder.
2. Lesions of the sigmoid.
3. Lesions of organs lying between these two.
4. Traumatism.

These lesions are inflammatory or neoplastic.

1. *Diseases of the Bladder.* These are rarely the cause of sigmoidovesical fistulas (7 per cent to 10 per cent of the cases in long and rather old series, studied by Higgins[1] and Williams[2]). The causative factors are for the most part tumors, perivesical abscesses secondary to diverticula of the bladder, and imbedded stones. A fistula secondary to tuberculosis of the bladder is an exception today. We have had no personal experience with a vesicocolic fistula of vesical origin, a variety which, from evidence in the latest reports, seems to be becoming more and more rare.

From the Department of Urology, Huron Road Hospital, Cleveland.
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2. *Diseases of the Pelvic Organs* (uterus, vagina, ovary, tubes, prostate, seminal vesicles). Some twenty years ago, pathologic conditions of the female internal genitalia (infections or tumors) was the major cause of colovesical fistulas. The frozen pelvis is far less frequent since the era of antibiotics, and many tumors can be treated before such development occurs. Thus, if the colovesical fistula was more frequent in the females than in the male, as was reported by Cunningham in 1915 (75 per cent of female patients), it is now more frequent in the males.

3. *Diseases of the Sigmoidorectum.* These are the most frequent causes of colovesical fistulas, accounting for them in two-thirds of all cases today. Diverticulitis of the sigmoid, to which most of our experience is limited, is a principal cause, with carcinoma also a major factor.

The frequency of fistula in association with diverticulitis of the sigmoid is difficult to estimate. It is known that diverticulosis is present in 1.8 per cent of 7,000 cases in which autopsy is done; that diverticulitis will develop in 20 per cent of patients with diverticulosis; and 22.8 per cent of the patients with diverticulitis, as observed by Mayo and Blast[3] had colovesical fistulas. This number seems to us high. Fistulas due to diverticulitis of the sigmoid are more frequent in the male than in the female; the diverticulitis is a masculine disease. In addition, the female internal genitalia form a screen between the sigmoid and the bladder. Diverticulitis of the sigmoid was responsible for fistula in 4 of the 5 cases here reported.

4. *Traumatism* as a cause of the sigmoidovesical or rectovesical fistula is mostly of surgical origin: Wounds injuring the bladder and colon are healed at an early state and rarely terminate in fistulae. Colovesical fistulas follow radiotherapy for pelvic tumors, but surgical therapy is the more important factor, and usually, as far as urology is concerned, fistulas follow prostatectomy. They have been reported as following suprapubic, transurethral and perineal operations. In 1 of our cases a rectovesical fistula followed suprapubic prostatectomy.

Setting aside the congenital lesions and considering more than 500 cases reported in the literature, the following tabulation is a numerical evaluation of the causes of fistula between the distal colon and the bladder:

	Per Cent	Per Cent	
Traumatic lesions	16	10	post-operative
		4	radiotherapeutic
		2	wounds
Lesions of the bladder	9	5	inflammation
		4	malignant change
Lesions of the pelvic organs	10	6	inflammatory: abscesses of prostate, tubes
		4	tumors: carcinoma of ovary, uterus, prostate
Sigmoid lesions	65	36	sigmoiditis
		29	carcinoma

We have left out a few cases in which the fistula was due to a rare cause, such as syphilis or actinomycosis. Crohn's disease takes on importance in the etiologic background of enterovesical fistula, but affects the small bowel (Williams[2]). So far as we know, ulcerative colitis has not been reported as a cause of fistula.

Pathologic Picture.—It has been demonstrated that, regardless of the cause of the fistula-to-be, the adhesions of the involved organs, namely, the colon and the bladder, are effected by an inflammatory process originating in the primarily involved organ, usually the sigmoid portion of the colon, rarely the bladder.

A lesion of the sigmoid—for example, peridiverticulitis — becomes an abscess. This abscess drains into the lumen of the bowel, but incompletely. The abscess continues to develop, finally reaching the external aspect of the bladder. The vesical wall is penetrated and finally perforated by the abscess. It remains an irregular sinus tract in an inflammatory mass, and this sinus tract is difficult to demonstrate at operation or even at autopsy. The sinus tract may be short or long, its formation fast or slow.

Abeshouse[4] described two ways in which the sinus tract can reach the bladder.

1. The first path is frankly intraperitoneal: the adhesion of the sigmoid to the bladder is facilitated by the retraction and shortening of the mesosigmoid, secondary to peridiverticulitis or infected carcinoma of the sigmoid.

2. The other path is retroperitoneal. It was more common in our series. The sinus tract develops in the mesosigmoid and thence along the ureter downward to the bladder. This retroperitoneal pathway explains why most sigmoidovesical fistulas open into the lower part of the bladder on the left side, near the trigone and the ureteral orifice (26 out of 32 cases in Higgins' series[1]).

Mayfield and Waugh[5] studied the histologic character of sinus tracts due to diverticulitis of the sigmoid. The very irregular sinus tract is bordered by more or less cellular granulation tissue; the sinus tract does not epithelize in this kind of fistula, but a traumatic fistula can epithelize, as we have observed in 1 case.

In a case of carcinoma of the sigmoid, the sinus tract to the bladder, usually inflammatory first, may be invaded by the tumor itself. Taylor, Dockerty and Dixon[2] presented 59 cases of tumor of the sigmoid perforating into the bladder: in 4 of the patients the sinus tract was completely carcinomatose. In 20 patients the carcinoma reached only outer layers of the bladder; in 19 cases, the sinus tract only was inflamed. Determination of the condition and course of the sinus tract is highly important to the prognosis. If the tumor invades all the layers of the bladder, there is always a lymphatic invasion, and the prognosis is poor. It is to be noted that in 13 per cent of the cases of carcinoma of the sigmoid treated at the Mayo Clinic the tumors are adherent to the bladder. One carcinoma out of 100 had perforated into the bladder.

Infection of the upper part of the urinary tract is usually reported as rare in association with colovesical fistula. Only 7 out of 35 of Higgins' patients presented signs of pyelonephritis.[1] Parham and Hume, however, observed 18 instances of pyelonephritis, 15 bilateral, at autopsies on 25 patients who had had enterovesical fistulas. Clinically, it is difficult to prove the pyelonephritis. The spiking temperature can be caused by a perisigmoid abscess. Catheterization of the ureters is, of course, contraindicated, because of gross infection of the bladder. Only 1 of our patients had chills and lumbar pain.

It is obvious that the vesicoureteral valve, to some extent, protects the upper part of the urinary tract from infection. Accordingly, patients who have undergone vesicorectostomy do not show evidence of renal infection (Moore[6]). In this particular case, however, the flow is directed from the bladder to the colon and not from the bowel to the bladder, as it is in the presence of a pathologic colovesical fistula.

Among the causes contributing to the persistency of the fistula, in addition to inflammatory or neoplastic disease, possible stricture of the bowel distal to the fistula should be mentioned. This stricture is very common with congenital fistulas but may occur also with acquired fistulas.

One must not forget that the colovesical fistula may be multiple (several sinus tracts) or complicated (affecting other organs). Colojejunovesical, colouretero-vesical and colovesicovaginal fistulas have been described. Nowadays, these complicated fistulas are seen in the terminal stages of pelvic tumor. Only isolated cases are published (Kerr[7]). In 1921, however, Sutton[8] observed 5 multiple and 8 complicated fistulas in 59 cases of sigmoidovesical fistula.

Symptoms.—1. The passage of feces *per urethra,* or fecaluria, is the pathognomonic symptom of an enterovesical fistula. The patient notices fecal fragments in his urine, or they are present in the alimentary tract (Ficarra and Martorano[9]). Practically, microscopic examination of the urinary sediment will make it possible to recognize the existence of these fecal fragments, but the fecaluria is far from being constant. For example, it was present in only slightly more than half of Higgins' patients.[1] The fistula has to be large to permit the passage of this solid material. A clinically evident fecaluria was present in all 4 cases of well-established colovesical fistula observed in this hospital.

2. The passage of air *per urethra,* or pneumaturia, is more frequent than fecaluria. It is present in 80 to 90 per cent of the cases of fistula, according to Harlin and Hamm.[10] Before attributing the pneumaturia to an enterovesical fistula, one has, of course, to rule out the evacuation of air introduced during recent instrumentation, the fermentation of urine if the patient is diabetic, or a gas-producing urinary infection (Eschericia coli, Aerobacter).

3. Symptoms of vesical infection are important, especially in the early history of the fistula, before and after it opens into the bladder. The appearance of signs of cystitis in a patient known to have diverticulitis of the sigmoid should call attention to the possibility of an "incipient fistula," as reported by Lazarus and Marks,[11] and can be an indication for surgical treatment of the diverticulitis. The cystitis usually improves with time, once the fistula is established. The fistula may open silently, as happened with our patients, but cases have been reported in which the patient felt a tearing sensation in the lower part of the abdomen, followed by purulent and fecal discharge and pneumaturia. Hematuria is not very frequent and usually not important.

4. The general condition of the patient is frequently affected. The history may reveal loss of weight, fever and fatigue. In addition, signs of the primary disease, usually of the sigmoid, are present, i.e., diverticulitis or advanced carcinoma of the rectosigmoid. We have mentioned that infection of the upper part of the urinary tract is rare.

The deterioration in general condition accompanying the establishment of a colovesical fistula is probably due to the primary disease rather than to the presence of the fistula itself. The presence of an invading carcinoma or of a peridiverticulitis explains the toxic condition usually present. Two of our patients had lost 20 and 30 pounds (9.1 and 13.6 Kg.) respectively during the few weeks prior to their admission to the hospital. But when the acute process is stabilized, however, the organism is able to endure the presence of the fistula. One patient is reported as tolerating this affliction for more than forty years. So far as we know, there is no mention in the literature of electrolytic disturbances in patients with colovesical fistulas. One might expect acidotic hyperchloremia because of this vesicosigmoid "anastomosis,"[5] but the direction of the flow in the fistula is, in fact, from the bowel to the bladder. This is understandable from the anatomic disposition and the difference in intracavitary pressure: the pressure is higher in the sigmoidorectum than in the bladder. The passage of urine *per rectum* is rare: it was present in 2 of 35 of Higgins'[1] patients and in 1 of 46 of Mayo's patients. None of our patients passed urine *per rectum.*

Diagnosis.—A colovesical fistula is suspected in a patient with symptoms of cystitis and colonic disease. It is clinically obvious when the patient shows fecaluria and pneumaturia, but the nature and location of the sinus tract must be studied. The most important diagnostic procedures are as follows:

1. *Cystoscopic Study:* The cystoscope makes it possible to suspect the fistula in 85 per cent of the cases and to see, definitely, the vesical orifice in 40 per cent. Before the sinus tract opens into the bladder, while the symptoms of cystitis only are present in a patient with sigmoid disease, one will see a hyperemic spot surrounded by bullous edema. Later a hemorrhagic, bulging mass will develop, simulating a tumor.[11] We had an opportunity to see one of these *"fistulae incipientes."* The picture is highly confusing if one does not know of the presence of a perivesical lesion. Finally, when the sinus tract opens and the bladder is flooded with pus, fecal material and gas, there is acute, generalized cystitis. This cystitis may subside later, and it remains either a definite opening of the sinus tract (this is rare; it was visible in only 1 of our 7 cases, in which the fistula was postoperative) or a granulomatous spot from which emanate bubbles of gas and fecal material. When the fistula has a sigmoid origin, this spot is mostly in the left lateral wall of the bladder. It could be seen in 3 of our 7 patients with open fistulas, and in 2 cases this granulomatous spot could be penetrated by a ureteral catheter. The contrast medium injected through the catheter outlined the sigmoid portion of the colon.

2. *Transurethral biopsy* of the borders of the fistula is advised in the search for the cause of fistula formation. It will inform one of the presence of a tumor, and, if a tumor of the rectosigmoid is known to be present, it will inform one also about the histologic character of the sinus tract. We have mentioned the prognostic importance of a neoplastic invasion of the bladder wall. In 1 of our patients, biopsy was of particular importance. This patient had undergone transurethral resection of a papillomatous tumor of the posterior portion of the urethra one year before diverticulitis of the sigmoid perforated into the trigone of the bladder. The biopsy failed to reveal any recurrence of the tumor as a cause of the fistula.

3. *Sigmoidoscopic Study:* This is usually disappointing. The intestinal opening of the sinus tract cannot be seen, or is seen only infrequently. We could see it in a patient with a low fistula following prostatectomy. The sigmoidoscope will, however, reveal colonic disease, carcinoma or sigmoiditis. A biopsy is possible. Methylene blue injected into the bladder will be seen in the rectum.

4. *The barium enema* likewise reveals the pathologic state of the colon that is responsible for the colovesical fistula. The sinus tract is not always outlined by the barium (only 20 per cent of the patients of May[2] and Blunt).[3] We had more luck, and the sinus tract was outlined in 3 out of 7 patients by the barium enema.

5. *Cystograms* may help to demonstrate and outline the sinus tract; they failed, however, to do so in 1 of our cases. The barium enema did enable us to visualize it.

Treatment.—Everybody agrees that a colovesical fistula does not close spontaneously, except perhaps when it is traumatic in origin. It is a general law in surgical pathology that a sinus tract caused by a pathologic process will not heal as long as this process continues. Permanent infection of the colon, of course, contributes to the persistence of the sinus tract.

The treatment of a colovesical fistula is surgical. Several approaches to the treatment of this disease may be considered:

1. Intravesical approach.
2. Intrarectal approach.

These two technics are no longer in common use; they are usually doomed to failure. One of our patients, however, responded favorably to transurethral fulguration of the sinus tract. We shall not consider this example. In another patient, attempts to fulgurate a postoperative sinus tract were unsuccessful.

3. Perineal approach. This approach is excellent in selected cases, especially in the hands of an experienced perineal surgeon. It provides opportunity to close the thoroughly mobilized fistulous openings at different levels. This is a most desirable objective.

Perhaps this approach is not often indicated. We employed it in 1 case. It was successful except for an unfortunate postoperative complication (a blocked irrigating system) which, through pressure, broke open the repair.

Provided a carcinoma of the prostate has previously been removed with the gland, one need have no fear for the perineal approach. If one dares to tackle a vesicocolic or a urethrocolic fistula perineally in a case complicated by advanced carcinoma of the prostate, however, one is likely to lose one's way in a pathologic perineum, perhaps infected, with confusing layers of multiple adhesions. Rectovesicoperineal fistula may be the result.

4. Parasacral approach. Excision of the coccyx permits dissection of the rectum and exposure of the posterior aspect of the prostate and of the bladder. This approach, advocated especially by Maresca and Cannon,[12] helped to cure 1 of our patients, who had a low sinus tract between the rectum and the trigone, following a suprapubic prostatectomy. It is possibly the procedure of choice for the cure of rectourethral and rectovesical fistulas after prostatectomy or prostatitis, but some argument on this point may be expected from the perineal surgeons.

5. Finally, the transperitoneal approach. This is the modern method, undoubtedly the best for a sigmoidovesical fistula. It provides good exposure of the lesions and a radical cure is possible whether one is dealing with sigmoid diverticulitis or an operable carcinoma. Excision of the sinus tract is not sufficient and leads to its possible recurrence. Authors agree that the diseased portion of the sigmoid and of the bladder should be resected.

Should this resection be done primarily, or should it be preceded by a colostomy? A few years ago the consensus was that primary resection of the sigmoid and partial cystectomy as a primary procedure make up a formidable operation.[13] Nowadays many surgeons undertake it. It is, of course, ideal from the surgical point of view; duration of morbidity is shortened, and the patient is spared the inconvenience of a temporary colostomy. It must not be forgotten, however, that we are dealing with patients that are elderly and chronically infected persons, whose organic resistance is exhausted. For these reasons, at the time of writing, we remain faithful to a preliminary transverse colostomy.

How long should one wait after the colostomy is performed before resecting the sigmoid? Some authors[13] have advised an interval of six months or even for a year, in the hope that the fistula will heal spontaneously, with a diverted fecal stream. This delay is, of course, impossible when one is dealing with a carcinoma, and even with diverticulitis we do not believe that such a lengthening of the period of morbidity is necessary. We do not expect healing of the sinus tract after colostomy; six and twelve months after a colostomy, Mayfield and Waugh[5] observed active abscesses around colovesical sinus tracts.

Anterior resection of the sigmoid, segmental cystectomy and excision of the sinus tract should be done in the weeks following the colostomy. The colostomy can be closed soon after this operation—as soon as the healing of the sigmoid anastomosis is reasonably certain (after two weeks in 1 of our cases).

Suprapubic cystostomy to follow the segmental cystectomy has been advised. We find no indication for this procedure, and we rely on a urethral catheter.

As far as the results are concerned, there should be no recurrence after a transperitoneal radical operation for a nonmalignant condition, and the mortality rate depends on the safety of the colonic anastomosis. If the fistula is due to a malignant tumor, the prognosis is, of course, poorer.

REPORT OF CASES

CASE 1.—B. M., a 51-year-old woman, had been complaining of abdominal cramps and had seen fresh blood in her stools for almost one year. Three weeks prior to admission to the hospital, and after a short period of frequency, tenesmus and burning on urination, she noticed that she was passing gas and solid fragments in her urine. She had lost 30 pounds (13.6 Kg.) in three months.

Cystoscopic examination revealed that the bladder was grossly infected; a granulomatous mass could be seen in the left posterior and superior wall of the bladder. Biopsy of a specimen from this mass revealed only granulation tissue. A barium enema outlined severe diverticulitis of the sigmoid portion of the colon and a fistula 5 cm. long between the sigmoid and the bladder. A laparotomy was performed. In the pelvis there was an encapsulated abscess, adherent to the sigmoid portion of the colon, the left tube and the bladder, and obviously containing the sinus tract. This mass, the left fallopian tube and a segment of the bladder were resected. The sigmoid loop was exteriorized according to Mikulicz and later resected. The colostomy was closed during a later hospitalization.

CASE 2.—J. C., a 45-year-old man with a long history of pulmonary tuberculosis and a right thoracoplasty, had been operated on three years earlier for peritonitis secondary to a perforation of a diverticulum of the sigmoid. Simple drainage had been done. One year prior to admission the patient had undergone transurethral resection of a papillary tumor of the posterior portion of the urethra. When seen, he was complaining of symptoms of cystitis and was passing gas and fecal material *per urethra*. Cystoscopic examinations revealed no recurrence of the tumor of the urethra but a granulomatous mass was observed in the posterior wall of the bladder. No opening of a sinus tract could be seen, but it was easy to engage the tip of a sigmoid colon. Because of the poor general condition of the patient and his poor cooperation, no radical procedure could be performed, although there was not much hope.

The patient was readmitted four years later for partial intestinal obstruction due to the sigmoiditis. The patient was treated conservatively. He had no complaints referable to the urinary tract and refused urologic studies. We shall, of course, draw no conclusions from this unusual history.

CASE 3.—J. C., a 65-year-old man, was admitted to the hospital for acute retention of urine. The prostate gland was pronouncedly enlarged. Catherization of the urethra was impossible, and an emergency cystostomy was performed. A few days later a suprapubic prostatectomy was done. The enucleation was difficult; hemorrhage had to be controlled by tamponade of the prostatic bed. The histologic diagnosis was prostatic carcinoma. Four days after the prostatectomy, after removal of the tampon, fecal fragments appeared in the urine. A transverse colostomy and a bilateral orchiectomy were performed two weeks after the prostatectomy. Six weeks later the cystoscope revealed a sinus tract, well epithelized, opening into the lower part of the trigone. A biopsy of material from the margin of the sinus tract failed to show any malignant invasion. An attempt to fulgurate the fistula transurethrally was unsuccessful, and a perineal repair was a failure because of a complication, the postoperative back pressure already referred to. Finally, one year after the prostatectomy, the fistula was cured by parasacral approach. The coccyx was removed and the rectum was retracted laterally. The sinus tract was exposed and excised widely. The trigone and rectum were closed by separate layers at different levels, and the colostomy was closed later.

The patient died three years later of myocardial infarction and pneumonia. He had been given estrogen therapy since the prostatectomy. At necropsy there was no evidence of recurrence of prostatic carcinoma; there was only some scar tissue in the trigone and the upper part of the rectum.

CASE 4.—G. S., a 53-year-old man, was admitted to the hospital for painless gross hematuria. The cystoscope revealed a large, bleeding mass on the anterior wall of the bladder. A tumor was suspected and a suprapubic biopsy performed, which showed only granulation tissue. The key to the diagnosis was obtained by a barium enema, which outlined important sigmoid diverticulitis, clinically silent. Though the treatment of these *"fistulae incipientes"* is resection of the diseased bowel, the absence of clinical symptoms encouraged expectation. The patient was seen six months later, after conservative treatment. He had had an attack of pyelonephritis but no recurrence of the hematuria and no intestinal symptoms. There was no evidence of opening of the fistula incipiens.

CASE 5.—A. H., a 63-year-old man, was admitted to Huron Road Hospital on July 11, 1957. This patient was diabetic, with blood sugar levels sometimes as high as 300 and 400 mg. per hundred cubic centimeters. His urologic history had begun eight weeks earlier with chills and with burning on urination. We also observed that at the time he had loose stools alternating with constipation. Finally, he passed gas and feces in the urine. His condition was poor on admission.

An indwelling catheter was inserted and a cystoscopic study done. The most important observation in the bladder was an area of intense granulation tissue in the right posterior sector where little bubbles appeared from time to time. We were not able, however, to introduce a ureteral catheter into an opening connecting with the outside of the bladder.

A pyelogram showed that the kidney pelvis and ureters were normal. Cystographic study did not reveal the cause of the sinus tract. Evidence was obtained, however, that a sigmoidovesical fistula existed. A barium enema was administered, which clearly showed a sinus tract between the sigmoid and the bladder. In fact, the bladder filled rather rapidly with barium. From this moment on, drainage and irrigation of his bladder by means of an indwelling catheter were maintained constantly, and all attention was directed toward building the patient up for the necessary surgical intervention and trying to stabilize the diabetes as well as possible.

As a first step, a transverse colostomy was done on July 26. After this there was considerable patient improvement. The bladder urine was better, and the patient's general condition was built up so that finally, on September 20, an operation could be done, with ureteral catheters inserted to prevent injury.

There was a large inflammatory mass between the bladder and the sigmoid joining both surfaces tensely together. The whole mass was resected out of the bladder and out of healthy sigmoid. An end-to-end anastomosis was done on the sigmoid, and the bladder opening was closed in three layers. Indwelling catheters were retained. The patient made a good recovery from this operation.

Histologic examination showed chronic granulomatous reaction between the sigmoid and the bladder—rectovesical fistula—no malignancy. Finally, on October 4, the transverse colostomy was closed and by October 20 we were able to discharge him. The indwelling catheter was removed shortly after the colostomy was closed and he urinated perfectly well. At the time of discharge the urine was still infected but cleared up gradually under ambulatory treatment with antibiotics according to the sensitivity observed at bacteriologic examination.

The patient was seen recently and is now quite well and active. His diabetes is easily controlled with much smaller amounts of insulin than during his hospital stay.

CASE 6.—J. S., a 71-year-old, alert, cooperative, small, thin white man, was admitted to Huron Road Hospital on April 19, 1957, because of difficulty in voiding. His history revealed increasing difficulty in initiating the stream during the previous seven months. He also complained of nocturia (three to five urinations nightly), burning, urgency and diurnal frequency of urination. There was also a history of a loss of 10 pounds (4.5 Kg.) in weight during the past seven months, in spite of a good appetite. The past history was noncontributory. The bowel habits had always been irregular.

Physical examination revealed the patient to be fairly well developed. He was coherent and in no acute distress. The significant abnormalities observed were those of a well-defined, mobile mass in the left lower quadrant of the abdomen, somewhat tender and about 12 cm. in diameter; bilateral hydroceles and enlargement of the prostate gland to about three times normal size. The gland was adenomatous, symmetric and freely movable.

Urinalysis revealed 3 plus albumin, many leukocytes and innumerable bacteria. The hemoglobin level was 11.2 Gm. There were 14,450 leukocytes per cubic millimeter of blood. The value for acid phosphates was 3.6 and that for blood urea nitrogen 28. The sedimentation rate was 101.

On April 31, cystoscopic study revealed a large sessile tumor of the bladder lying on the left anterior lateral wall, about 5 cm. in diameter, and pronounced trilobar prostatic hyperplasia. A biopsy specimen was taken and revealed adenocarcinoma. On April 25 the patient began passing fecal material through the inlying urethral catheter, and a diagnosis of vesicointestinal fistula was made. On April 26 a transverse colostomy was performed. Examination revealed a tumor of the sigmoid attached to the bladder. On May 20 resection of the sigmoid and ileum, with end-to-end anastamoses, partial cystectomy and left cutaneous ureterostomy were done. Recovery was slow but by June 25 the patient had recovered sufficiently to be taken to the operating room again, and transurethral prostatic resection was done. His recovery was fairly uneventful, and he was discharged on July 13, voiding satisfactorily and passing urine well through the cutaneous ureterostomy.

The pathologic diagnosis was papillary adenocarcinoma of the sigmoid with direct extension into the bladder. There was no roentgen evidence of fistula in this case.

The patient was readmitted to the Hospital in November for closure of the colostomy. Widespread malignant disease was observed, and he was discharged unchanged. He was reported to have committed suicide a few days later.

CASE 7.—H. A., a 70-year-old white woman, entered the hospital on April 28, 1957, with the chief complaint of pain on voiding. About four weeks earlier she had begun to notice burning, frequency, and urgency of urination, dysuria, and nocturia (four urinations in one hour). Recently she had begun passing tiny pieces of "mud," which caused her great distress.

In August 1956 a hysterectomy and left oophorectomy had been done for carcinoma of the left ovary. Metastases were presumed to have occurred. The patient is a known diabetic and takes 40 units of H.P.H. insulin daily.

Physical examination revealed the patient to be well developed, well nourished, alert and cooperative. Her appearance was in accordance with her stated age. There was a recent left rectus scar. No definite abdominal masses were palpable. Vaginal examination revealed a large, poorly defined mass fixed to the anterior abdominal wall. A presumptive diagnosis of intestinal-vesical fistula secondary to carcinoma of the ovary was made.

Laboratory data were normal except for blood sugar levels varying from 185 to 270 mg. per hundred cc. of blood. Urinalyses revealed many leukocytes, and erythrocytes, bacteria and epithelium. Culture of the urine revealed E. coli. The hemoglobin level was 60 per cent or 9.4 Gm. An electrocardiogram revealed sinus tachycardia of 115.

On April 30, 1957, cystoscopic examination revealed a fistula 1.5 cm. in diameter, located medial and distal to the right ureteral orifice. Feces were seen to be coming through this opening. Retrograde pyelograms revealed right hydronephrosis and hydroureter. The left pyeloureterogram was within normal limits. A biopsy of the tissue about the fistulous tract was performed and was reported as showing acute and chronic cystitis. Cystograms were taken that showed the bladder and rectum, establishing beyond doubt the diagnosis of intestinal-vesical fistula.

On May 2 a loop transverse colostomy was performed with no difficulty. The postoperative course was protracted by prolonged fecal drainage through the bladder and difficulty in the control of diabetes. The urinary drainage slowly cleared, and the patient was discharged fairly comfortable, but with a poor prognosis, on June 1.

Her family moved from the area, and about one year after discharge she was known to be living comfortably in a nursing home in California.*

Comment.—This particular case demonstrates a large rectovesical fistula of such size that the bladder failed to fill satisfactorily with contrast media on cystograms.

RÉSUMÉ

La fistule vésicosigmoïdienne est rare, mais elle peut se rencontrer dans tout service urologique. L'affection primaire est en général localisée à l'intestin, le plus souvent sous forme de diverticulite. Les auteurs décrivent les symptômes et proposent des moyens de diagnostic. Il faut toujours songer à la possibilité d'un début de fistule dans les cas de douleurs abdominales avec symptômes de cystite. Le carcinome du sigmoïde compliqué de fistule pose un problème en ce sens qu'il exige une excision très large. Lorsque la fistule est secondaire à la diverticulite du sigmoïde l'intervention peut être pratiquée en un temps, mais il est préférable d'opérer après une colostomie transverse.

SUMARIO

A fístula sigmoide-vesical embora não seja comum pode ser encontrada nos serviços de urologia. A afecção inicial é usualmente intestinal e mais frequentemente a diverticulite. Os AA. descrevem os sintomas e sugerem os metodos diagnosticos. Não se deve esquecer a possibilidade nos pacientes tem tem padecimentos colicos e apresentam sintomas de cistite. As fistulas complicando o Ca. sigmoide exigem extensas excisões. Nos casos de diverticulite do sigmoide a operação pode ser feita em um estagio. É preferivel, porem, operar após uma colostomia transversa.

RIASSUNTO

Benchè la fistola vescicosigmoidea non sia di comune osservazione, è possible osservarla in ogni reparto urologico. La malattia primitiva è de solito nell'intestino, il più spesso è una diverticolite. Gli autori descrivono la sintomatologia e i metodi per la diagnosi. Non bisogna dimenticare la possibilità di una fistola incipiente in un ammalato con affezioni del colon che abbia contemporaneamente sintomi di cistite; le fistole che complicano il carcinoma del sigma costituiscono un problema nei confronti della resezione estesa. Quando la fistola è secondaria alla diverticolite del sigma, si può fare un intervento completo nella stessa seduta. E'preferibile, tuttavia, operare dopo che è stata fatta una colostomia sul trasverso.

RESUMEN

Aunque la fístula vesico-sigmoidea no es cosa frecuente: se encuentra alguna que otra vez en los servicios de urología. La lesión primaria suele ser de asa, y frecuentemente una diverticulitis. Los autores describen los síntomas y sugieren métodos diagnósticos. No debe olvidarse la posibilidad de una fístula incipiente en los enfermos que con enfermedad cólica tengan síntomas de cistitis. Las fístulas complicando el carcinoma sigmoideo presentan el problema de sequerir una resección muy amplia. Cuando la fístula es consecutiva a una diverticulitis de la sigmoide puede hacerse una operación en un solo tiempo. Sín embargo siempre es preferible operar después de haber practicado una colostomía transversa.

ZUSAMMENFASSUNG

Wenn auch Fisteln zwischen der Harnblase und dem Colon sigmoideum nicht haeufig sind, so kommen sie doch schliesslich in jeder urologischen Abteilung zur Beobachtung. Die primaere Erkrankung

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*Since this paper was completed, 1 additional patient with an acquired vesicocolic fistula has been added to the series. In this patient the fistula followed total perineal prostatectomy for carcinoma. Surgical correction was accomplished as described in Case 3, by colostomy, diversion of the urinary stream through cystostomy and secondary perineal repair.—V.C.L.

liegt gewoehnlich im Darm und besteht am haeufigsten in einer Diverticulitis. Die Verfasser beschreiben die Symptome und schlagen diagnostische Untersuchungsverfahren vor. Wenn ein Kranker, von dem man weiss, dass er ein Darmleiden hat, Symptome eines Blasenkatarrhs aufweist, muss an die Moeglichkeit einer beginnenden Fistel gedacht werden. Fisteln als Komplikation eines Krebses des Sigmoideums stellen ein Problem dar, da eine sehr umfangreiche Resektion notwendig ist. Ist die Fistel die Folge einer Diverticulitis des Sigmoideums, laesst sich eine zur Heilung fuehrende Operation in einer Sitzung ausfuehren. Es ist aber besser, die Operation nach einer Kolostomie des Querdarms auszufuehren.

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Sick nursing is always tedious, risky and often disgusting; yet for a woman it can be the most satisfying work in the world. No one has ever fathomed the psychological power of a good nurse, but all have experienced it. Perhaps after all, there was something profound in Florence Nightingale's belief that her mental influence over the patient could be attained only through self-discipline based upon self-denial. Can it be that in spite of all discoveries in pharmacology, the power of healing through the spirit is still the most powerful drug known to medicine?

—*Williams*

Orthopedic Surgery

Head, Neck, Shoulder and Arm Syndrome Following Cervical Injury

The Mechanism of Injury and the Symptoms and Signs Involved

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Traumatic lesions of the head and neck have become immensely important of recent years from the medicolegal as well as the surgical point of view. This article deals with compression fracture, other damage due to compression, shearing and bending force fracture, fracture and avulsion of the spinous processes and "whiplash" injuries, among others of a formidable list of possible accidents. Since some of these, if the patient survives, may have severe and permanent sequelae from the psychic as well as the surgical point of view, the topic is one of the greatest possible current interest. The great difficulties that attend a just appraisal of industrial injuries and the employer's liability are pointed out.

THE head and neck in their relation to the upper part of the thoracic region presents a unique situation, in which their structures are particularly vulnerable to injury. Motion is allowable at the facet joints as a short range of gliding in all directions so that anterior (forward flexion), sideward, and posterior (backward extension) tilting may be combined with rotation (torsion) and/or shearing (shift). Kottke of the University of Minnesota has specifically measured the degrees of range of motion contributed by the various segments involved, realistically revising previously published estimates. The various forces that may be involved in trauma to the head, the neck and the upper dorsal segments of the spine are compression, distention, bending, shearing and torsion. At any time when the motion, in any of the aforementioned vector directions, exceeds the normal allowable range, the structures on the side toward which the motion occurs suffer damaging forces of compression, while, at the same time, the structures on the opposite side suffer damaging forces of distention.[1] The head and neck, swinging freely with the body as a base, may accumulate a considerable momentum, so that, when the limit of al-

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lowable range of motion is reached abruptly, the forces aforementioned may produce various types of structural damage in the neck.[1a]

If the head and neck are forcibly swung forward, either in the "whip" or the "lash" component, past the limit of motion, one or more of the following injuries may be sustained:

1. Compression fracture of one or more cervical vertebral bodies, with varying degrees of loss of height and/or disruption of the vertebral plates.
2. Compression damage from multiple ruptures of the delicate internal hydraulic structure of one or more of the intervertebral discs (90 plus per cent water!), with permanent loss of height resulting in altered mechanical alignment of the cervical portion of the spine (reverse curve). With loss of height of the disc space, the adjacent vertebral bodies teeter toward each other and, concomitantly, the posterior structures teeter apart, with the facet joints as the fulcrums. This causes abnormal distention, with resultant tightening compression of the posterior structures (ligaments, etc.) through which the nerves must pass. This may manifest itself as sensory and/or motor and/or sympathetic nerve signs and symptoms in the peripheral structures[1b]. Frequent observations on the electromyograph[2] in the innervated muscles are polyphasic motor units owing to motor nerve fiber compression damage, and fibrillation owing to complete interruption of continuity of some of the motor nerve fibers in the affected nerve. The polyphasic motor units may be observed within a few hours after the injury, but five to seven days must elapse before the fibrillation following complete interruption of the motor nerve fiber can be shown. With electromyographic tests of all muscles supplied by the cervical and brachial plexuses, it is possible, through knowledge of differential nerve root distribution to the muscles, accurately to localize the lesions. Not uncommonly the abnormal nerve compression of the cervical sympathetics on one side causes excessive dilation of the pupil of

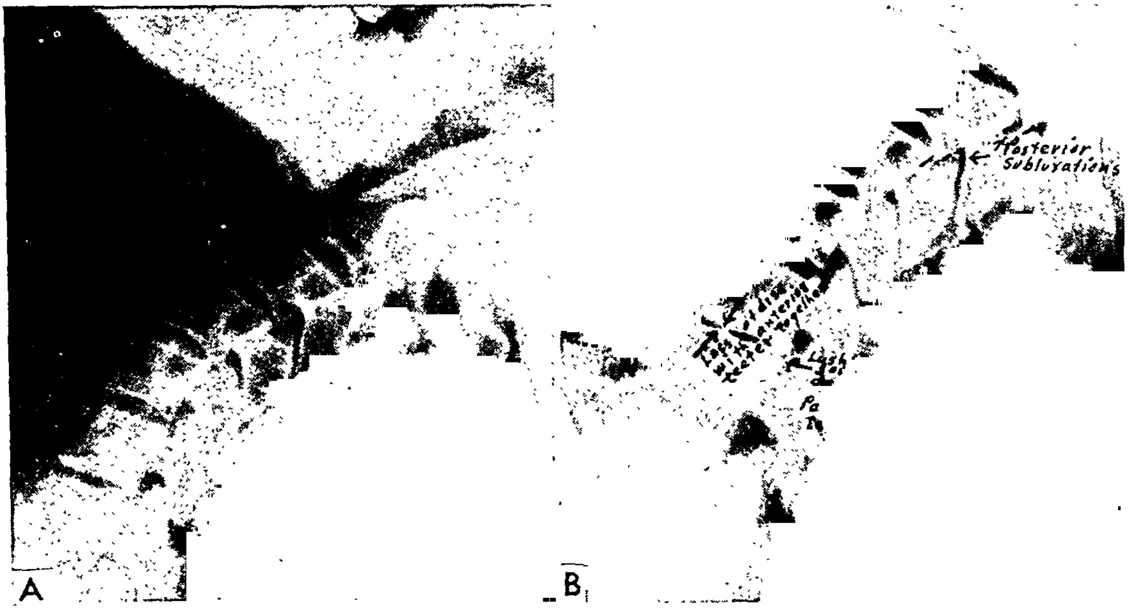

Fig. 1 (see text).

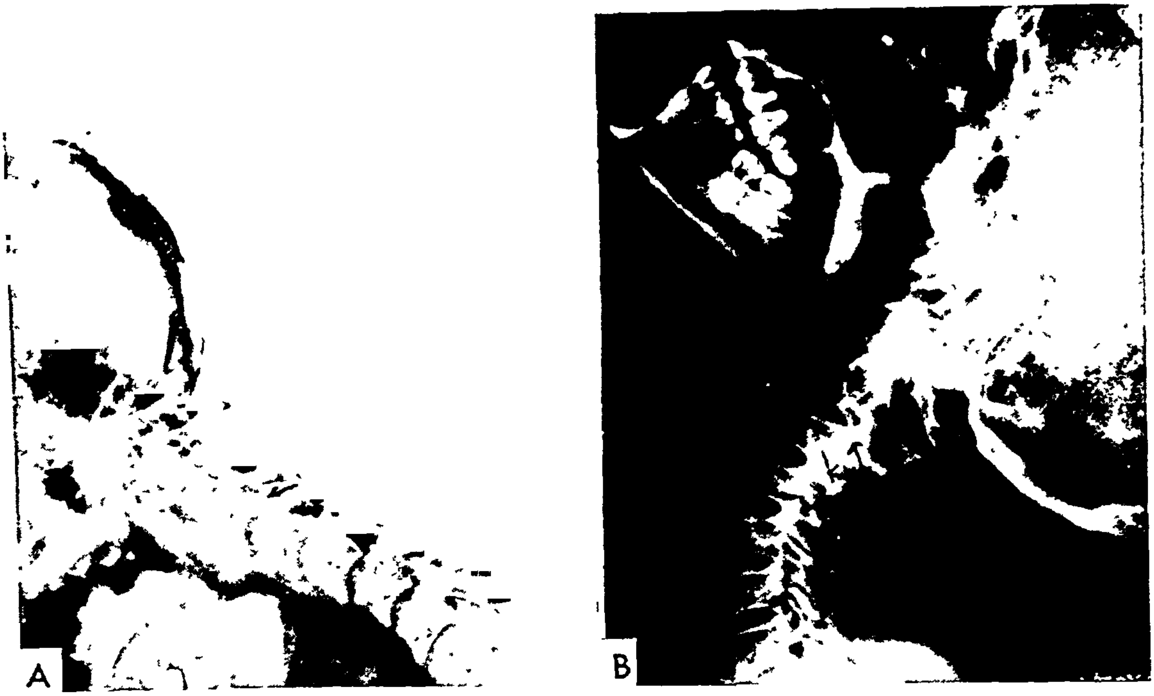

Fig. 2 (see text).

the eye on that side (opposite of constriction of pupil due to interruption of stimulus in Horner's syndrome), with symptoms of blurred and distorted vision.[1b]

3. Compression damage to the lips or margins of the vertebral bodies. Frequently, the margin is mushed outward to resemble a long standing spur. Figure 1*A* shows a lateral cervical roentgenogram taken of a prominent surgeon's neck (prior to injury) while he was acting as a subject in teaching his technician proper roentgen ray technic. Figure 1*B* shows the same neck (of this 50-year-old surgeon) after a severe whiplash injury sustained when he was struck forcibly from the rear in a motor collision. The mushed-out anterior lip margins of the sixth and seventh vertebral bodies and the loss of height of the intervertebral disc at the sixth and seventh cervical level are results of the compression forces of the lash phase (forward rebound) of the whiplash; by comparison with Figure 1*A*, it is clear that they are NOT the result of "an old arthritis of many years' standing." Figure 1*B* also shows marked anterior lip avulsion of bodies at the seventh cervical and first dorsal level and posterior subluxations of the second on the third and the third on the fourth cervical, caused by the distention forces on the anterior portions of the facet joint ligaments in the initial whip (backward) phase of the whiplash motion.

4. Shearing and bending force fracture of the odontoid process. If the patient survives initially, this type of fracture usually heals with proper immobilization.

5. Distention, torsion and bending force avulsion of the posterior portion of the facet joint ligaments with (a) anterior subluxation of one or both sides of one or more vertebrae on the adjacent underlying vertebrae (Fig. 2*A*), with Thomas collar immobilization in position of reduction (Fig. 2*B*) indicated; (b) dislocation of one or both sides of one or more vertebrae on the adjacent underlying vertebrae. The hazard of damage to the spinal cord is a pertinent issue, and immediate reduction is

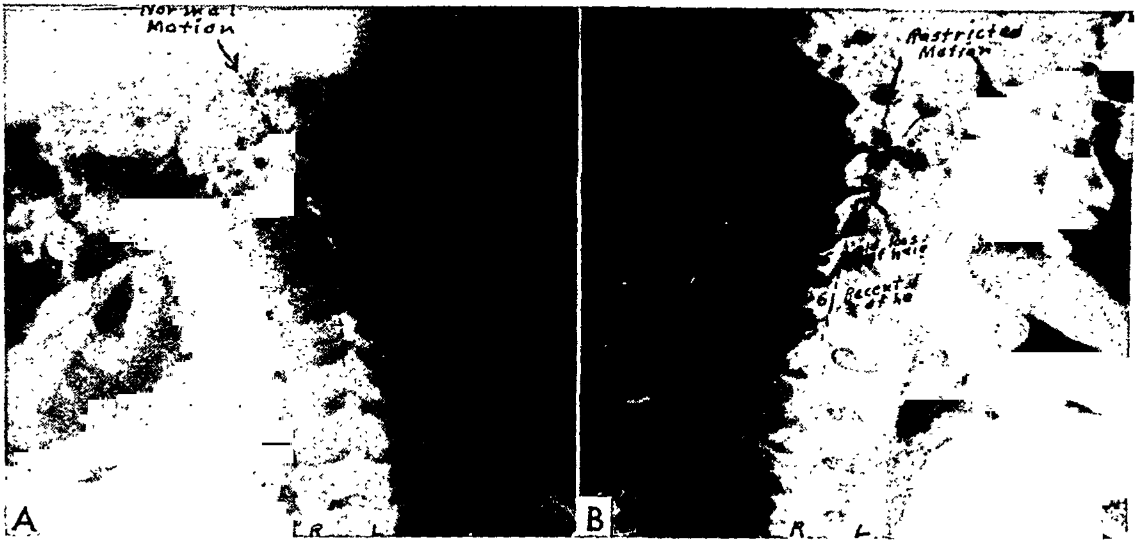

Fig. 3 (see text).

imperative, with use, as indicated in the particular case, of decompression and/or traction (Crutchfield tongs) reduction, followed by immobilization and, if necessary, later fusion.

6. Shearing and bending and compression fractures of the laminae and/or facets. These are often difficult to visualize on the roentgenogram. Stereoscopic and oblique projections have been suggested, and recently B. F. Boylston of Houston has suggested an anterior-posterior projection with the head and neck maximally rotated and tilted to the side (Fig. 3, *A* and *B*). Immobilization is indicated.

7. Distention force nerve root avulsion. See previous discussion of electromyograph under Point 2.

8. Compression mushing fracture of the interbody joints (Luschka; Fig. 4). Herniated intervertebral disc is prevented by these joints in the cervical region. The narrow posterior space between these joints is filled by a tough ligament that also seldom allows even a midline posterior protrusion of the disc. This has been nicely illustrated by the beautifully dissected specimens of Ruth Jackson of Texas.

9. Fracture or ligamentous avulsion of spinous processes.

10. Distention tearing rupture of blood vessels, with hemorrhages and hematomas.

11. Marginal fractures along the intervertebral canals, which at a later date may result in nerve-constricting traumatic arthritic overgrowth.

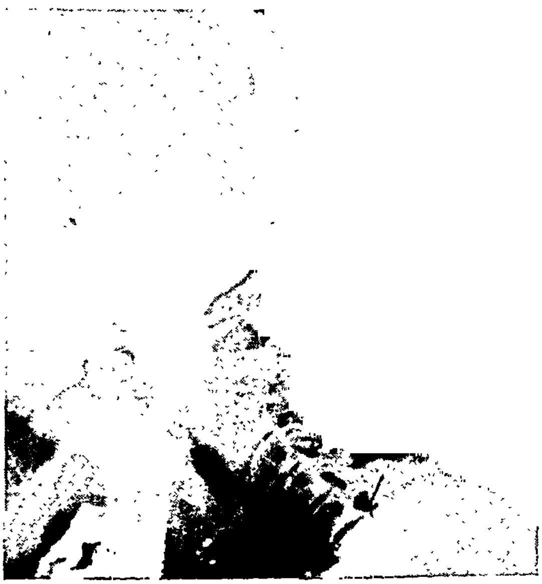

Fig. 4 (see text).

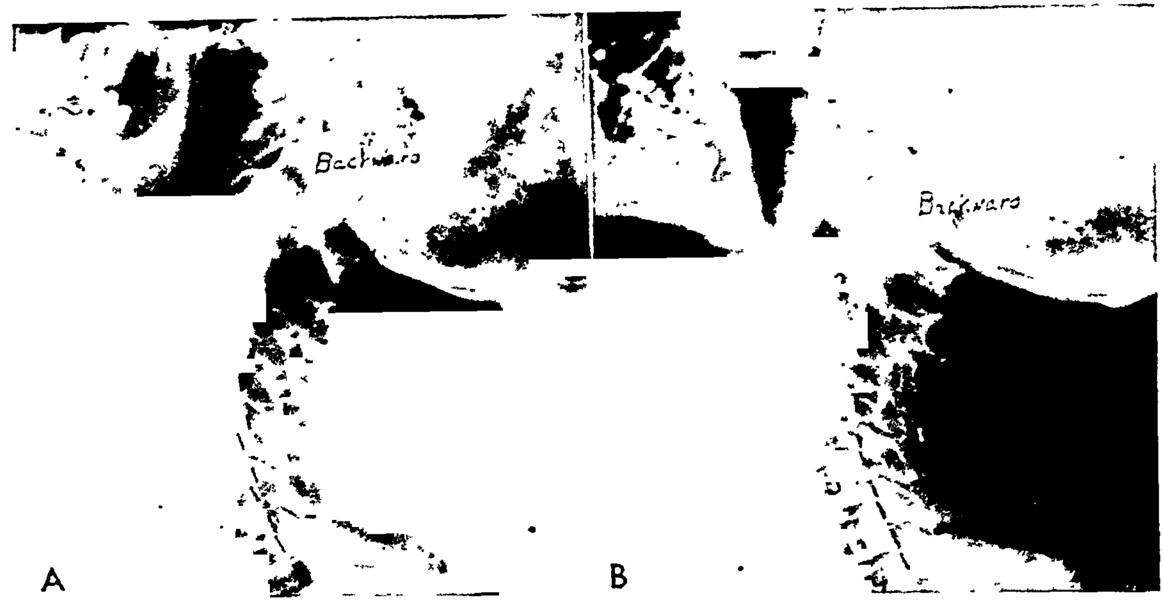

Fig. 5 (see text).

If the head and neck are forcibly swung backward, either in the whip or the lash component, past the limit of motion, some of the following injuries may be sustained:

a. Distention force avulsion of the anterior spinous ligaments from the lips or margins of the bodies (with or without bony avulsion) (Fig. 1*B*).

b. Distention and torsion and bending force avulsion of the anterior portion of the facet joint ligaments with (1) posterior subluxation of one or both sides of one or more vertebrae on the adjacent underlying vertebrae (Fig. 5, *A* and *B*), and (2) dislocation of one or both sides of one or more vertebrae on the adjacent underlying vertebrae.

The importance of injuries to the neck as a source of pains in the head was first called to my attention in 1934 by an orthopedic attending surgeon, Sumner Roberts, at Massachusetts General Hospital. Dr. Roberts had been giving special attention to traumatic injuries to the neck, carefully analyzing with roentgenograms the problem of partial dislocations (subluxaations) and dislocations of the facets. He pointed out the extreme importance of these dislocations and called attention to the symptoms resulting therefrom, including residual head pains.[3a]

During World War II, when I served as a Commander with a base assignment at the California Institute of Technology for research on nerve physiology, it was called to my attention by the Naval Surgeon General, Admiral Ross T. McIntire, that pilots landing on carriers were subjected to a considerable forward whip of the head and neck concomitant with the sudden deceleration of the plane, and that when undergoing catapult take-offs the pilots were subjected to a considerable backward whip of the head and neck concomitant with the acceleration. Signs and symptoms of interference with the nerve pathways subsequent to these injuries included lack of coordination in body positioning (righting reflex) and various autonomic cervical sympathetic signs referable to the head—neuralgia, dizziness, headache and distortion of vision. Considerable research and evaluation soon led to a nearly complete elimination of these injuries to the neck by means of two simple and effective measures, one being the placement of head rests in the planes to prevent the backward whip of the head and neck, and the other being the training of the pilot to hold his head and neck in a forward and downward position, with the chin on the chest, just the moment before "hitting the cables," to prevent the sharp forward whip when the plane, together with the body of the pilot, is decelerated. With the advent of speed and congestion on the highways there have been innumerable rear-end collisions, during which the necks of the occupants of the cars are frequently subjected to either forward and/or backward whiplash injury, furnishing a large case volume of data for evaluation of the resultant symptoms.

c. Shearing and bending and compression fracture of the laminae and/or facets and/or facet bodies (Fig. 6, *A* and *B*).

d. Distention force nerve root avulsion. See previous discussion of electromyograph.

e. Shearing and bending fracture of the odontoid process.

f. Fracture of the spinous processes.

If the head and neck are tilted or rotated to the side, of if the striking force is chiefly to the side at the time of injury, the exact position of the head and neck and the direction of force will determine which of the aforementioned injuries is most likely to occur. Torsion forces in combination with sideward tilt may frequently initiate unilateral subluxations or dislocations.

Initial symptoms immediately following injury may be minimal. One or more of the following complaints are frequently voiced: "jerk of the neck" in either forward or backward movements, depending upon which of the movements focused the neck to the patient's attention and not upon which came first; "dizziness," "daze," "nausea," "poor coordination," "a generalized numbed feeling," "blurred and/or distorted vision," "pain and numbness shooting into head, arms or down to low back from neck," and localized sensory hypersensitivity to pressure over the involved cervical segment. This sensitivity extends to include the skin of the area and is similar to the type described by S. Weir Mitchell in his writings on causalgia.[3b]

Twenty-four hours after injury the neck usually begins to stiffen; muscle spasm may be detected, and the injured person may complain of pain and/or numbness

Fig. 6 (see text).

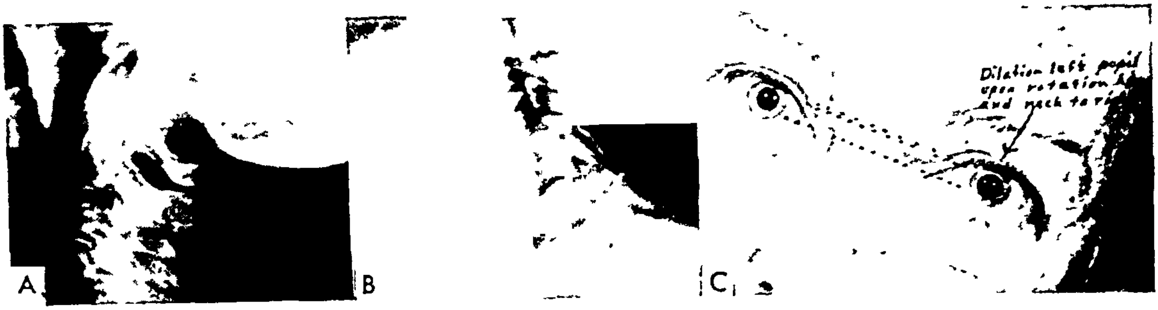

Fig. 7 (see text).

in the neck, in the head or outward to the shoulder and arm. Owing to the "splinting" from the muscle spasm and strain contracture of the collagen tissue fasciae and ligaments,[31] diagnostic roentgenograms at this time may not reveal subluxations, so it may be some time after injury before the subluxations become demonstrable (lateral views in full forward and full backward position of the head and neck are necessary).

The peripheral motor, sensory, and autonomic nerves traverse the narrow cervical intervertebral canals and then pass through ligaments and fascial planes, so that any disturbance of mechanical alignment may cause constriction compression stimulation of these nerves, with radiation of motor, sensory and autonomic nerve signs and symptoms to the neck, head, eyes, arms and hands. Mild hyperactivity of the gross reflexes in the arms may be discernible, and on occasion one may notice fibrillary twitchings in the muscles, indicating abnormal irritation stimuli of the motor nerve fibers.

Symptoms of disturbance of cervical postural reflexes may be identified by a history of discoordination immediately following the trauma. "Blurred vision," unrelated to ocular visual defects, may be complained of. In injuries with severe involvement the "blurred vision" is persistent, and in those in which the involvement is milder it is described as transitory. Some patients describe this symptom differently; e.g., "Objects seem to recede," or "I seem to lose my focus." Observation of the eye during a test of the cervicodorsal extent of rotatory mobility reveals wide, unilateral mydriasis (Fig. 7, *A*, *B* and *C*) regularly occurring with each forced rotation and persisting until the forced rotatory pressure is released. In many patients, active voluntary rotation of the neck to the limit of motion elicits the unilateral mydriasis. It is noteworthy that, during rotatory motion of the head and neck on the upper part of the back, there is also an exacerbation of the sensory nerve pain radiating into the peripheral distribution. An even more noteworthy observation is that, in the presence of mydriasis, autonomic vascular phenomena occur on the ipsilateral side of the face. It is concluded that this combination of signs represents a form of hyperstimulation of the cervical sympathetic division, coming from the first, second and third thoracic nerves and traversing the cervical ganglia to be distributed to the head and eye from the superior cervical ganglia. In fact, the signs and symptoms elicited are exactly opposite to those present when the cervical sympathetic division has been interrupted (Horner's syndrome). On occasion, patients have complained of intermittent and transient impairment of hearing. Whether this is due to interference with the patency of the eustachian tubes or to an autonomic phenomenon has not yet been determined. Other patients have at times complained of difficulty in swallowing.

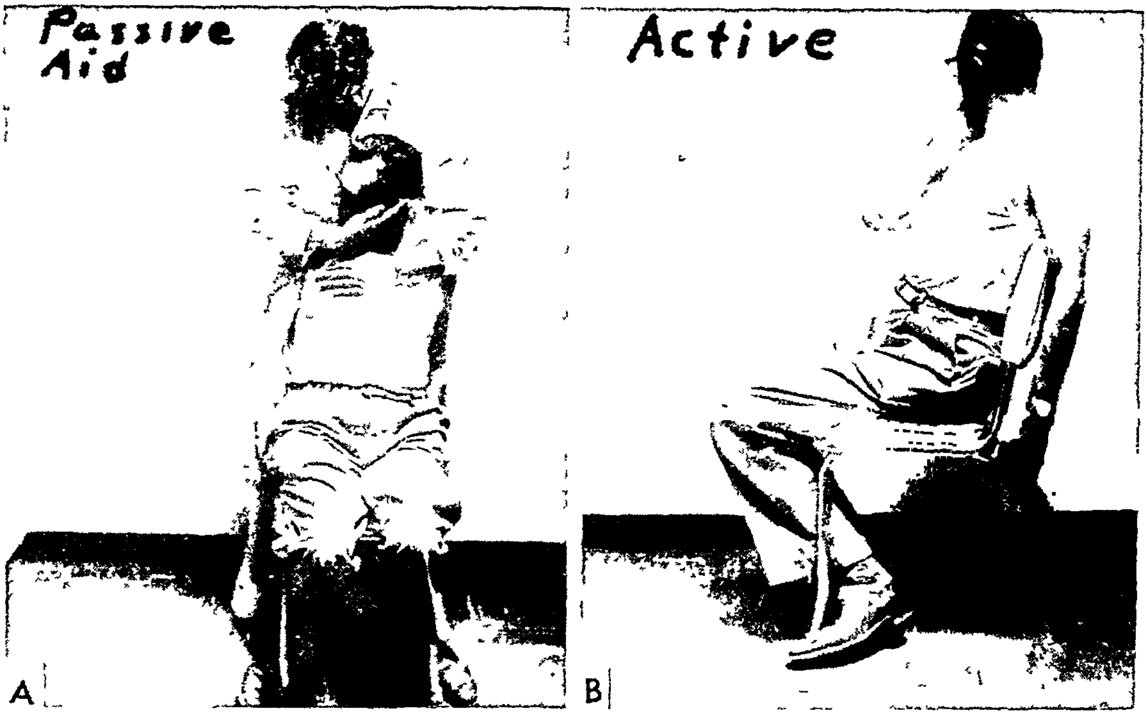

Fig. 8 (see text).

The careful study of causalgia dating back to S. Weir Mitchell's descriptions and including analysis of the functional balance of the autonomic nervous system as first brought to attention by J. N. Langley, as well as the studies of Leriche, has led many investigators into the field of autonomic nerve surgery as well as autonomic drug control therapy. In many ways the aforedescribed symptoms and signs in the head and eyes following cervical dorsal injuries resemble those of causalgia,[3b] and it has been suspected that causalgia is connected with overfunction of the sympathetic nerves.[3c]

On the basis of this line of reasoning, a carefully planned remobilization of the neck and the upper part of the back, by means of progressive stretching exercises (Fig. 8, *A* and *B*), has been carried out in order to free the nerves from the constriction stimuli in their pathways through the contracted fascial ligamentous structures. This mobilization has been attended with gratifying elimination of the symptoms and signs. Once full rotatory range of motion in the neck and the upper portion of the spine has been obtained, the patients become symptom free.[4] It has also been noted, however, that if they do not continue sufficient stretching exercises to maintain the full range of motion they are subject to recurrences. A number of patients who, when they became symptom free, disobeyed instructions and stopped the active exercises completely have had to return for a repeat series of passively aided, progressive, gentle accumulative stretchings in order to regain the normal range of motion. Judicial use of adrenal cortical steroids (and ACTH) and colchicine aid greatly in the loosening of fibrous tissue contractures.[3c]

Involuntary muscle contraction ("spasm") and "fibrillary twitchings," as well as peripheral sensory and autonomic signs and symptoms occurring in response to the nerve compression stimuli, may be elicited, in testing, by positioning the patient's neck so as to increase the neural compression irritation, through narrowing of the intervertebral canals or an increase in the compressing tension of the strain-contracted fibrous tissue surrounding the cells (e.g. sarcolemma, neurolemma), groups of cells and organs, and ramifying as fascial planes and ligaments.[3c]

Initial treatment by distention traction (with head halter or "tongs") is frequently advocated. In the absence of gross fracture-dislocation, however, if there are subluxations present, it is inadvisable to use traction that transmits distention force to the facet ligaments, since the first consideration, at the initial stage after the injury, is to allow the facet joint ligaments to "tie down" in healing in order to minimize the danger of a permanently recurrent subluxation instability. Figure 9, *A* and *B*, shows the permanent subluxations present twenty-one months after the injury in a case in which initial extended distention traction with a head halter had been used. Careful lateral roentgen ray projection views should be taken in full forced forward, neutral, and full forced backward thrust positions of the head and neck, and a Thomas collar fitted to hold the head and neck in the position that maintains reduction of the subluxations. After the Thomas collar has been worn for two to six weeks to allow maximum possible healing of the facet joint ligaments (Fig. 5, *A* and *B*), as determined by repeated lateral roentgenograms taken in the full forward thrust, neutral, and full backward thrust positions of the head and neck, the time comes to loosen the fascial and ligamentous contracture resulting from the injury of strain at the time of the accident as well as from the immobilization in the Thomas collar. This may be done by gentle, progressive accumulative loosening through torsion stretching exercises performed several times to each side three times daily, care being taken not to place a strain on the facet joint ligaments. These exercises are done as forced rotations of the head and neck, carried each time just a little way past the restricted limit, so as to register a net gain each day.

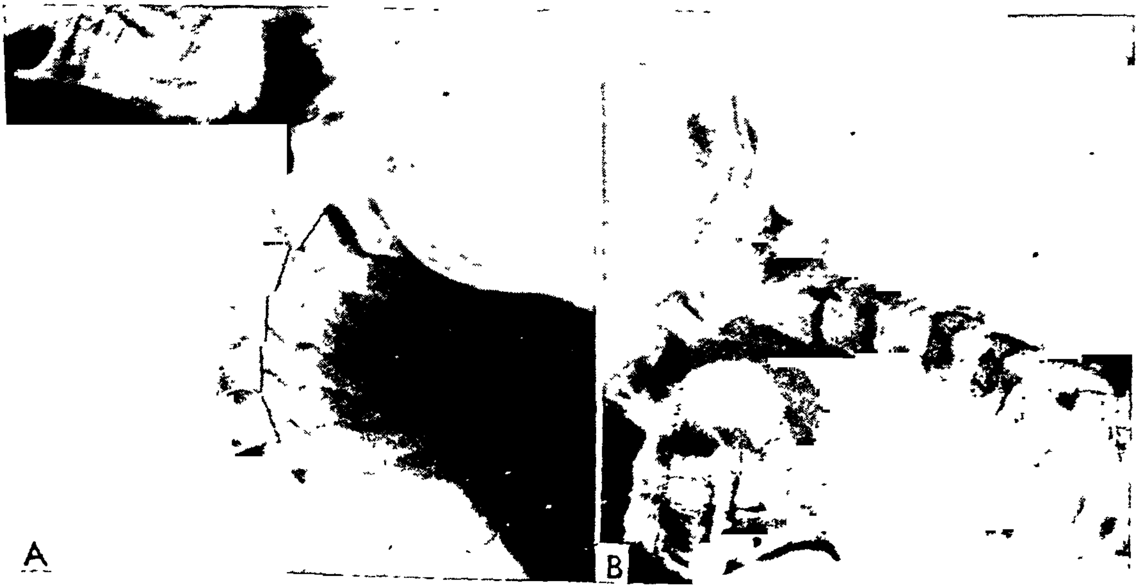

Fig. 9 (see text).

The residual complaints of headache[3a] and facial neuralgia[3a] following these whiplash injuries to the neck may thus be relieved. The autonomic blocking agents, e.g., methantheline bromide and chlorpromazine, or injections of a local anesthetic at the cervical ganglia, are useful in controlling symptoms.

Fractures, particularly those in the facet joints, tend to heal slowly and have as sequelae local traumatic arthritic changes (Fig. 6, *A* and *B*). The intensity and frequency of signs and symptoms will govern the decision whether or not to advise fusion of the cervical portion of the spine.

COMMENT

Much has been written and said by scientists, legal experts, economists and sociologists about the problem engendered by "whiplash injuries to the neck." The scientific medical features of the injuries and symptoms involved have often been beclouded by the "aims" of the persons or groups concerned.

1. Insurance protection has become a necessary facet of our fast-moving society.
2. There is a necessity of holding down losses to *bona fide* injury claims.
3. An attorney may be retained to represent either the plaintiff or the defendant.
4. Physicians and surgeons are retained to determine the extent of injury.
5. The litigant's attitude frequently is colored not only by the actual damage but by aggrieved and/or opportunistic outlook as well.
6. As has been shown in this article, the neck is a wondrously composed structure designed for smoothly synchronized function, any anatomic *disturbance of which may caus* [illegible] function.
7. Jerked necks (whiplash injuries) occur during the course of nearly any automobile ride. The symptoms, in most instances, if they occur at all, subside within periods varying from minutes to a few days or weeks, without residual disability. If the trauma is severe enough, however, structural damage ensues.

A situation has arisen in which the attitudes concerning this injury when it involves claims and rebuttals somewhat resemble the following example: (a) If one were to attend a night court or police desk in any large metropolis, one would be inclined to catch the impression that everybody was a crook: (b) If one were to attend his church and converse with the parishioners and his minister on a Sunday, he would get the impression that all was sweetness and light.

Somewhere in between seems to be the median plane, and perhaps just where it is "God alone knows."

ZUSAMMENFASSUNG

Unfallsverletzungen des Kopfes und des Halses haben in den letzten Jahren einen unerhört wichtigen Platz sowohl vom gerichtsmedizinischen als auch vom chirurgischen Standpunkt aus eingenommen. Die eindrucksvolle Liste vorkommender Verletzungen, die in der vorliegenden Arbeit aufgeführt wird, umfasst unter anderen Kompressionsfrakturen, andere *durch Kompression verursachte* Schädigungen, durch Scherungs- und Beugungskräfte erfolgte Knochenbrüche, Brüche und Abrisse der Dornfortsätze und die sogenannten "Peitschenschlag" — Verletzungen. Angesichts der schweren und dauerhaften Schädigungen, die solche Verletzungen, wenn der Patient am Leben bleibt, sowohl vom psychologischen als auch vom chirurgischen Standpunkt aus *mit sich bringen k* [illegible] andelt es sich [illegible] ein Thema von [illegible] tem aktuel-

lem Interesse. Auf die grossen Schwierigkeiten, mit denen eine gerechte Bewertung industrieller Verletzungen sowie der Haftpflicht des Arbeitgebers verbunden ist, wird hingewiesen.

RÉSUMÉ

Les lésions traumatiques de la tête et du cou ont pris depuis quelques années une importance de plus en plus grande tant du point de vue médico-légal que du point de vue chirurgical, et l'auteur décrit ici plusieurs variétés de fractures. Ce sujet revêt une importance capitale du fait qu'en cas de survie du malade certaines lésions laissent des séquelles aussi bien psychiques que chirurgicales. Une juste appréciation des lésions dues aux accidents du travail et de la responsabilité de l'employeur présente de nombreux problèmes.

RIASSUNTO

Le lesioni traumatiche del capo e del collo sono divenute estremamente importanti in questi ultimi anni tanto dal punto di vista chirurgico che medico-legale. Questo articolo tratta delle fratture comprimenti, delle lesioni da compressione, delle fratture da flessione, delle fratture con strappamento dei processi spinosi, e di molte altre fra le tante lesioni possibili. Questo argomento presenta un interesse eccezionale e di grande attualità poichè molte di queste lesioni possono non causare la morte ma essere seguite da postumi a carattere permanente. Viene sottolineata la grande difficoltà nel valutare le lesioni a carattere professionale e i rischi dei lavoratori.

RESUMEN

El tratamiento de las lesiones de la cabeza y el cuello es un hecho hextraordinariamente importante en los últimos tiempos tanto desde el punto de vista quirúrgico como del médico legal. En este artículo se trata de las fracturas con compresión, otros trastornos debidos a la compresión, fracturas en la flexión, fracturas con avulsión de las apófisis espinosas y las llamadas lesiones de latigazo entre esta formidable lista de posibles accidentes. Puesto que algunas de estas lesiones, si el enfermo sobrevive, pueden tener secuelas permanentes tanto psíquicas como quirúrgicas, constituyen un tema del mayor interés actual. Destaca de una manera especial la calificación de estas lesiones cuando se refieren a accidentes de trabajo.

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4. Billig.[1b] Billig.[3a]

Fractured Hips

A Clinical Survey of One Hundred Cases of Hip Fracture Treated in a General Hospital

SUSHIL K. GUPTA, M.D.,* EHSAN MALAKOOTI, M.D.,
AND DAVID N. MARKS, M.D.**
ROSLYN, LONG ISLAND

A critical study of 100 cases of fractured hips treated in a general city hospital has been made, and results of the treatment are presented.

Of these fractures, 54 per cent were fractures of the femoral neck and 46 per cent intertrochanteric. Differential and comparative data as to their different anatomic types are presented.

The authors conclude that, on the basis of this study, continued early operative fixation of a fractured hip, regardless of the "anatomic type," appears to be the treatment of choice.

A GREAT many reports on the results of the various modes of treatment of patients with fractured hips are available in the literature.[1] This study is intended to add some additional data. In this report are presented the results of an extensive study made of 100 cases of fractured hips treated in a general city hospital. The data obtained from this study have been subjected to a critical analysis, and the results are presented.

Material and Method.—One hundred unselected consecutive admissions with fractured hips to the hospital in a fifteen month period (1956-1957) were studied. The entire information obtained from each patient was placed on a separate card, which became a permanent record in "capsule form" of each case. All the basic and comparative data were then tabulated and subjected to critical analysis. All in-patients were examined, and information as to their physical and anatomic (roentgen) status was obtained. A follow-up on the patients discharged from the hospital was obtained by means of a detailed questionnaire sent and replies analyzed.

Background.—All patients in this study were white. Most belonged to low income groups, coming from a working-class neighborhood.

Sex: There was a great preponderance of female patients in this study, 81 female and 19 male patients, as is shown in Table 1.

TABLE 1.—*Sex Incidence*

Sex	*Number of Patients*
Male	19
Female	81
Total	100

Age: The patients' ages varied from 38 to 96. The great majority, however, were between 61 and 90 years of age (Table 2).

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TABLE 2.—*Age Incidence*

Age, Years	*Number of Patients*
31-40	1
41-50	3
51-60	6
61-70	22
71-80	35
81-90	30
91-100	3
Total	100

Anatomic Types: The fractures were classified according to whether they were fractures of the femoral neck or of the intertrochanteric type. Fractures of the neck were further divided into "capital," "midneck," or "low neck" fractures (Table 3). They were further classified as to the angle of fracture, i.e., as to whether it was nearly horizontal or vertical; also, as to whether or not the fragments were displaced. The intertrochanteric fractures were classified according to whether they were comminuted or noncomminuted and whether or not displaced (Table 4).

TABLE 3.—*Type of Fracture*

Type of Fracture	*Number of Patients*
Neck:	54
Capital	13
Middle	25
Low	16
Angle:	
Vertical	28
Horizontal	26

TABLE 4.—*Communition and Displacement*

Type of Fracture	*Number of Patients*
Intertrochanteric:	46
Comminuted	34
Noncomminuted	12
Total fractures	100
Number displaced	51
Number undisplaced	49

TABLE 5.—*Duration of Fracture Before Treatment*

Duration Fracture (From Time of Fracture to Admission), Days	*Number of Patients*
1	77
2-7	23

TABLE 6.—*Interval Before Operation*

Surgery (From Time of Admission)	*Number of Patients*
Within 5 days	72
1-3 weeks	28

It appears from these data that there was a slight preponderance of fractures of the femoral neck over the intertrochanteric type, though not quite large enough to be significant. "Midneck" fractures appeared to be the commonest type of fractures of the femoral neck. The angle of fracture line and displacement did not appear to be statistically significant. A majority (34) of the intertrochanteric fractures were extensively comminuted, as against 12 of the noncomminuted type.

Duration of Fracture and Time of Surgical Intervention: A great majority of patients (77 per cent) were admitted within twenty-four hours after the injury. A significant number, however (23 per cent), were admitted between two and seven days after the injury. Some of these patients continued to be ambulant, with varying degree of functional disability, before admission (Table 5).

A majority of the injured patients (72 per cent) were operated upon within five days of admission; a significant number, however, 28 per cent, waited from 1 to 3 weeks before surgical treatment was given (Table 6). Most of the patients belonging to this "late" group had some uncontrolled associated disease that re-

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TABLE 10.—*Complications*

Operative Complications	Number of Cases
A. Local—Neck absorption, slipped nail, etc.	9
B. General—(Resulting in death)	
Pneumonia	4
C.H.F.	2
M.I.	1
Senility	3
Infection & general debility	1
Undetermined	5
Nonoperative Complications	
Pneumonia	1
C.V.A.	1
C.H.F.	1
Undetermined	5

TABLE 11.—*Results*

Deaths	24	24%
Postoperative	16	17.7%
Nonoperative	8	80%

tive heart failure, was the cause of death in 2 cases and myocardial infarction in 1 case. Senility, most commonly associated with refusal to eat, accompanied with an apparent total loss of the will to live, appeared to be the cause of death in 3 elderly patients. Wound infection followed by general debility was the cause of death in 1 case; in 5 the cause was undetermined, death being sudden. The presumptive evidence was in favor of a cardiorespiratory cause (Table 10).

Among the 10 patients not undergoing any surgery, again, cardiorespiratory complications appeared to be the principal cause of death (Table 10).

Results.—Of the 100 patients studied, 24 died. Of the 90 patients operated upon, 16 died postoperatively—a mortality rate of 17.7 per cent. Of the 10 patients treated conservatively, 8 died while in the hospital, with a mortality rate of 80 per cent (Table 11). One was transferred to a mental institution because of uncontrolled psychosis. One patient with a minimal impacted intertrochanteric fracture was treated conservatively and did well (Table 12). The high mortality rate in nonoperative cases does not entirely reflect the result of this mode of therapy. These patients were of the extreme old age group and were crippled with uncontrollable associated systemic diseases, and therefore any surgical procedure was absolutely contraindicated.

The anatomic results of patients undergoing operation were judged by the latest roentgen data as to the position of fragments, extent of healing, and the position of the nail or prosthesis in relation to the bone trabeculae and the lines of force. These were judged as "good" when they satisfied the following criteria:

1. Good reduction of bone fragments.
2. Good roentgen evidence of healing with callus formation.
3. Good position of nail—well within the head of the femur and lying just below the midportion of the substance of the neck, along the lines of force and just above the inferior cortex of the neck.

On the basis of these criteria 38 patients, or 42.2 per cent, were considered to have good results. The results of the surgical treatment of fractured hips were considered "fair" when, although they did not strictly satisfy all the aforementioned criteria, the reduction of fragments was acceptable and the Smith-Petersen nail was still within the confines of the bony fragments. On the basis of this, 28 patients, or 31.1 per cent, were classified as showing fair results. Patients who showed poor fracture alignment and the nail outside the confines of the bony cortex, e.g., through the head into the hip joint or breaking through the cortex of the neck, were considered "poor." There were 24 such cases, or 26.6 per cent, in this series (Table 13).

quired intensive medical therapy before the patient could be operated on.

Associated Diseases: Cardiac disease appeared to be the commonest associated disease in these injured patients, being present in 26 per cent. Senility and other organic neurologic changes were present in 12 per cent. This certainly complicated the nursing care and the outcome. Pulmonary diseases, such as chronic emphysema, bronchitis and tuberculosis, metabolic diseases, i.e., diabetes, were present in 5 and 7 per cent respectively. Many of the diabetic patients became "out of control," owing perhaps to "stress" consequent to injury, or had been initially neglected prior to admission (Table 7).

Technical Considerations.—Ninety patients were given definitive operative treatment. In all, 93 definitive operations were performed, 3 on previous "failures." The commonest operation was reduction and fixation of the fracture with the Smith-Petersen nail and the McLoughlin bar for additional fixation to the shaft of the femur. Most of the intertrochanteric fractures and fractures of the lower part of the neck of the femur were treated in this manner. The Smith-Petersen nail alone was used in 36 cases, mostly for "capital" or "midneck" fractures. McMurray's osteotomy as a definitive procedure was performed in 1 case only, that of a patient with a fracture of the femoral neck. Two prosthetic procedures and a secondary osteotomy were performed in cases of previous "failure," accompanied with nonhealing and neck absorption (Table 8).

TABLE 7.—*Associated Pathologic Conditions*

Associated Diseases	*Number of Cases*	*Percentage*
Cardiac	26	26
Pulmonary	5	5
Metabolic	7	7
Neurologic	12	12

TABLE 8.—*Operations: Number and Type*

Number of Patients Undergoing Operation	90
Number of Operations	93
Type of Operation	
S.P. Nail	36
S.P. Nail & Plate	53
Prosthesis	2
Osteotomy	2

TABLE 9.—*Anesthesia*

Type of Anesthesia	*Number of Cases*
General	29
Spinal	52
Local	13

Spinal anesthesia was the commonest type of anesthesia used (in 52 cases). General anesthesia was used in 29 cases, and in 1 case both spinal and general anesthesia were required. Local anesthesia was used in only 13 cases. The patients in these 13 cases were extremely debilitated, with chronic cardiopulmonary disease, and were considered extremely "poor risks" for any other type of anesthesia (Table 9).

The average operating time ranged between one and three hours. All operations were performed by the resident staff, their technical skill being a "constant factor" in this evaluation.

Complications.—Local: Among the 90 patients operated upon there were 9 in whom local changes developed at the fracture site; e.g., slipping out of the nail, with or without neck absorption. On a critical review of these cases, technical faults, e.g., an unsatisfactory reduction of the fracture or improper placement of the Smith-Petersen nail, appeared to be the most important causative factor.

General: Pulmonary complications, e.g., bronchopneumonia and lobarpneumonia, were a postoperative complication in 4 cases, resulting in the death of all 4 patients. Cardiac complications, e.g., conges-

TABLE [illegible]

Operative Complications
A. Local—Neck **absorption,** slipped **nail, etc.**
B. General—(**Resulting in dea**
Pneumonia
C.H.F.
M.I.
Senility
Infection **& general**
Undetermined
Nonoperative Complications
Pneumonia
C.V.A.
C.H.F.
Undetermined

TABLE II.—

Deaths
Postoperative
Nonoperative

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Results.—O
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16 died postop
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(Table II).

easons for this nonoperative treat-
ere extreme old age, general debil-
uncontrollable associated diseases.
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ly very high, does not truly reflect
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ient.

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SCHLUSSFOLGERUNGEN

Es liegt eine kritische Untersuchung von
in einem allgemeinen städtischen
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In 54 Fällen handelte es sich um Schenhalsbrüche, in den übrigen 46 um introchantäre Frakturen. Die verschie-
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ler vergleichenden Angaben angeführt.
Neunzig der Kranken wurden operiert;
Operationsmortalität betrug 17.7 Pro-
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andelt mit einer Sterblichkeitsrate von
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ative Behandlung bestanden in äus-
vorgeschrittenem Alter, allgemeiner
äche und gleichzeitig bestehenden un-
ren Erkrankungen. Die, wie zuge-
wird, sehr hohe Sterblichkeitsziffer
aher kein reines Bild von den Erfol-
cht-operativer konservativer Be-
ig. Die hervorragenden Gründe
Krankhaftigkeit und Sterblichkeit
rsuchten Fälle liegen in der Seni-
Kranken und in ikationen

TABLE 12.—*Data on 16 Operative Deaths*

	Intertrochanteric Fracture	*Comminuted Fracture*	*Noncomminuted Fracture*	*Neck*	*Capital*	*Middle*	*Low*
	7	6	1	9	2	5	2
	Nonoperative Deaths—8						
	4	4	0	4	2	1	1
Total	11	10	1	13	4	6	3

TABLE 13.—*Anatomic Results*

Result	*Number of Cases*	*Per Cent*	*Fracture of Femoral Neck*	*Intertrochanteric Fracture*
Good	38	42.2	21	17
Fair	28	31.1	16	12
Poor	24	26.3	13	11

TABLE 14.—*Functional Results*

Functional Results	*Number of Cases*	*Type of Fracture* *Of Femoral Neck*	*Inter-trochanteric*
Rehabilitated:			
Complete, with cane or independent	14	7	7
Partial, with crutches	18	10	8
Wheelchair existence	43	23	20
Bedridden	1	1	0
Deaths	24	13	11
Total	100	54	46

An analysis of the functional results in these cases was performed on the basis of their ability to be mobilized; whether the patients were independently active, with a cane or crutches or in a wheelchair, or whether they were bedridden. Thirty-two patients became independently mobile, or mobile with the aid of cane or crutches. Breaking these figures down into the anatomic type of fractures revealed no significant trend (Table 14).

Forty-three patients were found to be leading a "chair existence." However, these patients were far easier to handle from the nursing point of view and many of them were able to go home and required only moderate assistance. Only one patient was completely bed-ridden. The anatomic type of fracture did not appear to have any significant relationship to the functional result (Table 14).

COMMENT

On a further analysis of the results and correlation of them with the available data in these cases, it appeared that most of the deaths and poor results obtained occurred in patients from 70 to 90 years of age. This apparently coincides with the higher incidence of fractures in the same age group (Fig. 1). An unsatisfactory technical procedure was certainly accompanied with a higher rate of failure. Severity of associated systemic diseases appears to have a significant effect on the outcome. Various anatomic types do not appear to have a significant effect on the mortality rate in these cases (Fig. 2 and Table 12).

Follow-up.—A follow-up on the patients discharged after operation was attempted in all cases. A detailed questionnaire was prepared, with special reference to functional ability of these patients as compared to their status prior to injury.

In analyzing the total status of the patients studied in this report, it appeared that approximately 42.1 per cent of the surviving patients were completely or partially rehabilitated and that 57.9 per cent more or less led a semi-crippled or "chair existence." Considering their age and the amount of functional activity expected of them, however, this did not seem quite so dismal. Certainly those who were leading the so-called "chair existence" presented far easier problems of nursing care than if they had been confined totally to bed.

CONCLUSIONS

A critical study of 100 cases of fractured hips treated in a general city hospital has been made, and results of the treatment are presented.

Of these fractures, 54 per cent were fractures of the femoral neck and 46 per cent intertrochanteric. Differential and comparative data as to their different anatomic types are presented.

Ninety per cent of the patients have been operated upon, with an operative mortality rate of 17.7 per cent. Ten of the patients were treated conservatively, with a mortality rate of 80 per cent. The main reasons for this nonoperative treatment were extreme old age, general debility and uncontrollable associated diseases. This mortality rate, therefore, though admittedly very high, does not truly reflect the result of nonoperative conservative treatment.

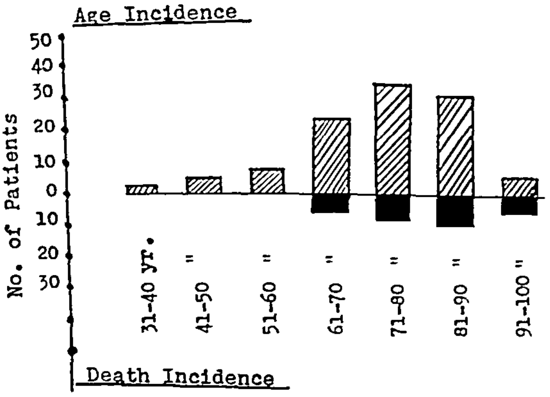

Fig. 1 (see text).

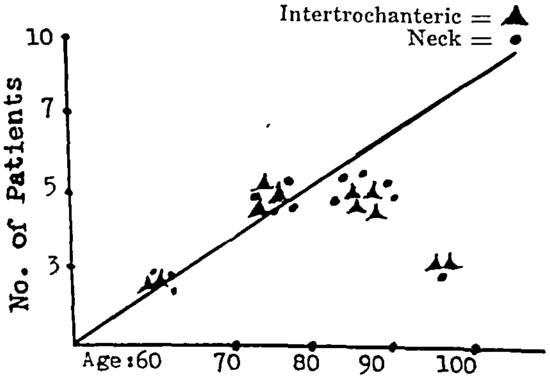

Fig. 2 (see text).

Cardiorespiratory complications and senility were the outstanding causes of morbidity and mortality in the cases studied.

On the basis of this study, a continued early operative fixation of a fractured hip, regardless of the "anatomic type," appears to be the treatment of choice.

Authors' Note: We are indebted to the various chiefs of the Surgical and Orthopedic services for the privilege of using their material, to the Record Librarian for her cooperation in making the records available, and to Mrs. Hoffeld and Miss Kaufman for preparing the text of this report.

SCHLUSSFOLGERUNGEN

Es liegt eine kritische Untersuchung von 100 in einem allgemeinen städtischen Krankenhaus behandelten Hüftfrakturen und ein Bericht über die Ergebnisse der Behandlung vor.

In 54 Fällen handelte es sich um Schenkelhalsbrüche, in den übrigen 46 um intertrochantäre Frakturen. Die verschiedenen anatomischen Formen werden unter vergleichenden Angaben angeführt.

Neunzig der Kranken wurden operiert; die Operationsmortalität betrug 17.7 Prozent. Zehn Patienten wurden konservativ behandelt mit einer Sterblichkeitsrate von 80 Prozent. Die Hauptgründe für nichtoperative Behandlung bestanden in äusserst vorgeschrittenem Alter, allgemeiner Schwäche und gleichzeitig bestehenden unheilbaren Erkrankungen. Die, wie zugegeben wird, sehr hohe Sterblichkeitsziffer gibt daher kein reines Bild von den Erfolgen nicht-operativer konservativer Behandlung. Die hervorragenden Gründe für die Krankhaftigkeit und Sterblichkeit der untersuchten Fälle liegen in der Senilität der Kranken und in Komplikationen

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Total	11	10	1	13

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Poor	2

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10 malati furono trattati conservativamente, con una mortalità dell'80%. Le principali ragioni per non intervenire furono l'età molto avanzata, le cattive condizioni generali e le malattie associate. La quota di mortalità, pertanto, benechè comunque molto elevata, non riflette con sincerità i dati della cura conservativa. Nei casi studiati le complicanze cardiorespiratorie e la senilità furono le cause principali della morbilità e della mortalità.

Sulla base di questo studio la cura di scelta appare la fissazione operativa precoce, indipendentemente dal tipo anatomico della frattura.

SIONS

L'auteur l'étude criti ue de 100 la hanch chirur ose

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CONCLUSOES

Apresenta um estudo critico e os resultados de 100 casos de fracturas do femur das quais 54% intratrocantericas. Citam os aspectos diferenciais e comparativos dos tipos anatomicos.

Noventa por cento dos pacientes foram operados com mortalidade de 17.7%, e 10% tratados conservadoramente com mortalidade de 80%. As contraindicaçoes para nao operar sao idade avançada, debilidade geral e molestias associadas. As complicações cardio-respiratorias e senilidade foram as maiores causas da morbidade e da mortalidade nos casos estudados. Cim base neste estudo revelam que uma fixação cirurgica precoce deve ser feita não interessando o tipo anatomico, como tratamento de escolha.

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* * *

Body-snatching has provided a remarkable literature. . . . But of all the records the most enlightening and vivid is the contemporary *Diary of a Resurrectionist* written by a body-snatcher. For grim laconic eloquence this diary must surely stand alone. even in an age when letters and diaries formed such a large part of our social background. It is a short work of only sixteen leaves. There are no entries for the summer months when the dissecting-rooms were closed. A full moon too impeded the work. "The moon at the full. could not go." runs one entry. The activities of the gang seem to have been held up from time to time also by drunkenness. and there are several entries like this. "Intoxsicated all day. at night went out and got 5 Bunhill Row. Jack all most buried." Quarrels amongst members of the gang and rivalries with other gangs appear to have been not uncommon. Thus. "Went to White Chapell did not succeed. came back went to St. Johns. the other party got the adult. coming back with the ladder. Bill got taken unto the Watchhouse. with the ladder. came home." The men spent their daylight hours scouting for burials. for information about suicides and other unsavoury incidents which might yield material for their trade. Finally the diary closes with the following illuminating entry. "Remained at Barth packing up for Edinboro sent 12 to wharf for the above place. at home all night." The diarist. referred to simply as "N." was evidently better educated than the rest of his confederates in crime and gives on one page the method for calculating the phases of the moon. a knowledge of which was doubtless essential. Eventually. he was helped to an honest way of life by Sir Astley Cooper. who in his student days had been a pupil of John Hunter. and knew the ways of the body-snatchers intimately.

—*Gloyne*

seitens des Kreislaufs und der Atmungsorgane.

Auf Grund der vorliegenden Untersuchung scheint die frühzeitige operative Fixierung des Hüftenbruches ohne Rücksicht auf seine "anatomische Form" die Behandlung der Wahl zu sein.

CONCLUSIONES

Se presenta un estudio crítico de 100 casos de fracturas de la cadera tratadas en el Hospital General de una ciudad dando cuenta de los resultados. De tales fractures 54% lo fueron del cuello, y 46 intertrocantéreas. Se presentan los datos diferenciales y comparativos que proporciona cada tipo anatómico de fractura.

90% de los lesionados fueron operados con una mortalidad de 17,7%. En 100 de ellos se aplicó el método conservador con una mortalidad de 80%. Los principales causas de este tratamiento no quirúrgico fueron la edad avanzada, la debilidad general y las enfermedades asociadas imposibles de dominar. De esta forma el índice de mortalidad, aunque muy alto, no refleja la realidad de lo que representa el tratamiento conservador en sí mismo. Las complicaciones cardioespiratorias y la senilidad han sido las causas predominantes de morbilidad y mortalidad en los casos estudiados.

Del presente estudio se deduce que la fijación operatoria precoz de la cadera fracturada cualquiera que sea su tipo constituye el tratamiento de elección.

RIASSUNTO

Viene presentato uno studio critico su 100 casi di fratture dell'anca trattate in un ospedale generale cittadino. Di queste fratture il 54% era del collo femorale e il 14% erano intertrocanteriche; vengono descritti i differenti aspetti di entrambe.

Il 90% dei malati venne operato, con una mortalità operatoria del 17,7%. Altri 10 malati furono trattati conservativamente, con una mortalità dell'80%. Le principali ragioni per non intervenire furono l'età molto avanzata, le cattive condizioni generali e le malattie associate. La quota di mortalità, pertanto, benechè comunque molto elevata, non riflette con sincerità i dati della cura conservativa. Nei casi studiati le complicanze cardiorespiratorie e la senilità furono le cause principali della morbilità e della mortalità.

Sulla base di questo studio la cura di scelta appare la fissazione operativa precoce, indipendentemente dal tipo anatomico della frattura.

CONCLUSIONS

L'auteur s'est livré à l'étude critique de 100 cas de fractures de la hanche traités dans un hôpital de chirurgie générale (centre urbain) et en expose les résultats thérapeutiques.

54% étaient des fractures du col du fémur, 46% des fractures intertrochantériennes. Ce travail contient des données comparatives et différentielles quant à leurs types anatomiques variés.

90% des cas ont été opérés, avec une mortalité opératoire de 17.7%. 10% ont subi un traitement conservateur, avec une mortalité de 80%. Le traitement conservateur a été dicté par un âge très avancé, un état de déficience générale et des affections concomitantes incurables. Il en résulte que le taux de mortalité très élevé de ces derniers cas n'est pas le reflect exact des résultats du traitement conservateur, la plupart des complications et des décès étant dus des troubles cardiorespiratoires et à l'âge avancé des patients.

Il ressort de cette étude qu'une fixation opératoire permanente paraît être le traitement de choix des fractures de la hanche, à quelque type anatomique qu'elles appartiennent.

CONCLUSOES

Apresenta um estudo critico e os resultados de 100 casos de fracturas do femur das quais 54% intratrocantericas. Citam os aspectos diferenciais e comparativos dos tipos anatomicos.

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—*Gloyne*

Sección en Español

Resumen de Nueve Casos de Atrofia Cronica Muscular Progresiva Tratados Hormona de Crecimiento por Via Endo-Arterial: Nota Preliminar

(Review of Nine Cases of Chronic Progressive Muscular Atrophy Treated by Endo-Arterial Hormone Therapy: Preliminary Report)

EDMUNDO HENRIQUEZ INCLAN, M.D.,
Y Q. F. B. LORENZO LOPEZ ZEPEDA, M.D.
MEXICO D. F., MEXICO

CON esta designacion o la de atrofias cronicas musculares progresivas se llaman desde hace algun tiempo, por varios clinicos e investigadores, a un conjunto de sufrimientos que afectan, de preferencia, los musculos de las extremidades, tamto superiores come inferiores, que son de etiologia incierta marcha de gran cronicidad, sin terapeutica efectiva, y que, ademas tienen como denominador comun un ataque a las neuronas motoras perifericas, en alguna e poca de su evolución, como lo señalan ya, Pier Marie[1] y Grinker.[2]

The authors review 9 cases in which the patients had had chronic progressive muscular atrophy for periods ranging from two to twenty years. Both sexes were represented. The literature is reviewed, and the authors present the problem from the etiopathogenic, biochemical, anatomopathologic and therapeutic points of view, with statistical data on the incidence of this condition and the morbidity rate associated with it. Their own experience, including the indications for this study and the results obtained, is reported.

La primera descripcion historica de atrofias, aparece en 1789 por Underwood.[3]

Años mas tarde, en 1849, Aran descrive una variedad de atrofia, de manera maravillosa, dados los conocimientos de la epoca; y poco despyes Duchens, amplia los datos clinicos e insinua el factor familiar, que tambien lo señala Bouardel.[4]

El primer estudio histo-patologico, lo realiza Cruvelhier, en un saltinbanki que padecio, la ya conocida henfermedad de Aran-Duchens, con lesiones medulares, musculares y en nervios perifericos.

Consideraciones Etio-Patogenicas. — La mayor parte de autores, como barraquer,[5] Brenemans[6] y Costero,[7] muestran una carencia de comocimientos incontrovertible, sobre las causas de estos males.

From the Hospital General, Mexico, D. F.
Read at the Tenth Biennial International Congress, International College of Surgeons, Mexico, D. F., Feb. 24-28, 1957.
Submitted for publication July 9, 1957.

Hoff[8] piensa que la causa, sean excitaciones en el para-simpatico, continuas y permanentes, durante mucho tiempo.

Ultimamente Ken-Kuré,[9] demuestra al excitar el vago, atrofias experimentales musculares en animales.

Se ha discutido tambien mucho, sobre la influencia de traumatismos psiquicos. Turner,[10] revisa 70 casos y no lo comprueba.

El factor hereditario, existe en tipos como Charcot-Marie, lo que fue ampliamente demostrado, hace mucho tiempo por Erb quien lo encontro en un 56%.

Hay otros tipos, en que este factor no se comprueba, como dice Orlando[11] en el Aran-Duchene.

Consideraciones Bio-Quimicas. — Hoff[8] dice, los trastornos de inervacion simpatica, producen anormalidades metabolicas en la creatinina y la glicocola, que al fin descencadenan trastornos troficos.

En este padecimiento la creatinina se libera muy poco por la orina, al grado de que existe una prueba, en la que, suministrando 3 gramos, y no habiendo eliminacion por la orina, el paciente sufre atrofia muscular. No obstante Pearson,[12] cita casos en que no se observa este fenomeno.

Las ribosurias urinarias, modificacas en su eliminacion urinaria, para algunos, son negadas por autores como Ranzoni, Wald Lam y Gildea.[13]

Pearson, encuentra en los musculos afectados, disminucion en la cantidad de la mio-globina, lo mismo que la miosina y del adeno-sin-trifosfato, y supene que existen conbinaciones deficientes del fierro.

Consideraciones Anatomo-Patologicas.— Las podemos dividir en dos aspectos:

A) Macroscopico.—El alargamiento que puede aparecer en un principio en las partes proximales y distales de una extremidad, segun sea la forma, va aumentando con el tiempo, siendo una de las caracteristicas de estos males.

Los musculos pueden presentar dos tipos; uno que aparecen normales sin serlo, en cuanto a su volumen, y el otro, en que se ven francamente atrofiados.

B) Microscopico.—En el estudio microscopico de un biceps, realizado en uno de nuestros caos por el Dr. Zapiain (Aran-Duchene), se encontro en la hora O: Fibras musculares rodeadas de edema, muye escasas, nucleos sarcolemicos, escasos capilares.

Estos resultados son parecidos a los que aporta Grinker.[2]

A los 2 meses de tratamiento, se encuentra: abundantes capilares, mayor numero de fibras musculares (C.239-56-Biceps).

En otro de nuestros casos, forma Charcot-Marie, en un tibial anterior, el Dr. Zapiain, encomtro en la hora O: Escasas fibras musculares, pocos capilares y abundante tejido grasoso. A los dos meses de tratamiento, hay numerosas fibras musculares, mayor estriacion de ellas, aumento en el numero y grosor de capilares (C.309-10-56-Tibial).

En los nervios perifericos son constantes las degeneraciones mielinicas y atrofias mas o menos visibles segun el grado de evolucion de estos males.

Con el tiempo se observan las cromatolisis y degeneraciones grasas comodice Welcher.[14]

En la medula en los cordones anterolaterales, la mielina toma el aspecto de gruesas bolas, posteriormente se observan degeneraciones progresivas, como relatan Wyman[15] y Welcher[16] en las neuronas de los cuernos-anteriores.

Datos de Gabinete.—Los estudios de las corrientes: Faradica, Galvanica y Cronaxia, tienen una gran inportancia, ya que el grado de atrofia, es susceptible de equilatarse segun las respuestas electricas que se observen, como lo dicen Bouardel, Grinker y Long.

Aquellos musculos que dan una respuesta de O a la Faradica y Galvanica (no responden a 12 miliamperios), o que dan R.D. a la Cronaxia (no respondencon 15 sigmas), son considerados desde tiempos de Bouardel, como definitivamente perdidos.

Existe tan gran pesimismo en este tipo de enfermedades, que se dice, que las respuestas electricas son siempre desfavorables.

Consideraciones sobre la Frequencia.—En los estudios de Wallace, Lending y Rich[17] se revela que de 160.000.000 millones de habitantes deEE.UU, padecen 200.000, lo que hacen que formen la no despreciable cifra del 1% de las formas ortopedicas.

Consideraciones sobre la Invalidez.—Wallace, Lending y Rich, dicen que un 96%, despues de algun tiempo, presentan invalidez para caminar y el 55% emplean sillas de ruedas.

Cuandro trascurre bastante tiempo, la invalidez, se va acercando desde el punto de vista de su extremidades al 100%, lo que constituye una terrible carga para la familia y la sociedad, y graves problemas morales y materiales para los sujetos que la padecen.

Consideraciones Terapeuticas.—Son numerosos los tratamientos que se han ensayado hasta la fecha, y entre estos podemos citar:

A) Estricmina sola o combinado con el alfa-tocoferol, misma substancia denominada Vitamin E, que menciona Wice.[18]

B) Timocombinado con tratamientos electricos, Pier-Marie.

C) Tetosterona, preconizada por Alpers.

D) Adrenalina unida a estractos hipofisìarios, proscrita por Grinker.

E) Nitrato de plata o Cornezuelo de Centeno por Barraquer.

F) Vitamina $B_2.E_1$ acido Folico. J. Roy, Van Mater.

G) Juy, Olin, Colins y MacEachene,[19] La prostigmina colocada en la luz de la arteria braquial.

Sin embargo los resultados de la terapeutica eran pesimistas en la epoca de Pier-Marie, que decia: Jamas se detiene la evolucion del mal.

Hoy dia se tiene parecido criterio como se desprende de estos hechos: En 1952, Abrahamson y Hogoff, dijeron en la asociacion Americana de distrofias musculares: "No son efectivos, los tratamientos fisicos y de rehabilitacion hasta el presente."

Justificacion de esta Investigacion.—Las atrofias musculares, o atrofias musculares progresivas, son como su nombre indica progresivas, de etiologia incierta, carecen de terapeutica efectiva, lo que justifica que se intente una, que no sea toxica para el paciente y sea a la vez susceptible de dar resultados positivos. Si a esto añadimos la invalidez progresiva de los enfermos, con sus correspondientes problemas para el, sus familiares y la sociedad, se comprendera por que, cada nuevo intento terapeutico debe ser considerado como algo plausible.

Nosotros buscando un nuevo tratamiento para este mal, encontramos como bases para continuarlo, los siguientes resultados, manifestados en Secuelas-Cronicas de Poliomielitis.

En 250 caso de personas de ambos sexos tratadas por medio de Hormona de Crecimiento (Armour), inyestada en la arteria femoral, o la subclavia, cada ocho dias, que llevaban de evolucionar entere 6 meses y 27 años, cuyas edados eran de 17 meses y 28 años, encontramos:

A) Alargamiento de las extremidades inferiores medidas desde la espina iliaca antero-superior a maleolo externo con un aumento de 0.5 a 1 ctm mensual con excepcion de 5 casos.

B) Aumento de grosor de muslo y pierna que oscila entre 0.5 a 1 cmt por mes.

C) Mayor tono muscular, que se conserva desde el tercer dia al 28 dia.

E) Mejoria de movimientos musculares, medida con la clave del 1 al 5, cada mes.

F) Modificaciones para caminar, las que para dar una idea al medico general se clasificaron de esta manera:

—a) 39 casos con 0% de capacidad para andar, la recobraron en un 100%

—b) 46 personas que tenian una capacidad para andar de 25% la adquieren 75%

—c) 58 enfermos que sufrieron una capacidad de marcha de 50% adquieren 75%

—d) 107 casos que tenian capacidad de caminar de un 75% logran 100%.

G) Respuestas electricas en las extremidades tratadas:

Resultados.—Se considera respuesta de O ó R.D. a Faradica, Galvanica, cuando el musculo-estudiado no responde con 12 miliamperios, y tambien cuando la Cronaxia de un musculo, no responde con 15 sigmas.

Los resultados logrados con nuestro estudio son:

1. Las extremidades sin R.D. ó O de respuesta electrica, van desapareciendo sus trastornos a estos elementos antes de 4 meses.
2. Las extremidades que tenian de 1 a 2 musculos con R.D. ó O las ven de saparecer antes de 90 dias.
3. Las extremidades que sufrian 3 a 4 R.D. ó O las ven desaparecer antes de 5 meses.
4. Extremidades con 5 a 10 R.D. las ven desaparecer en sus ¾ partes antes de los 5 meses.
5. Extremidades con mas de 10 R.D. ven desaparecer la mitad de ellas en 6 meses, o por lo menos la cuarta parte.
6. Aumento de las fibras musculares y capilares, en un musculo biceps y otro tibial anotados anteriormente, despues de 2 meses de tratamiento.
7. Aumento de temperatura cutaneo, medida en el termometro electrico sobre la piel del muslo, de 2 a 10 grados centigrados, y pierna de 2 a 13 grados centigrados.

Como se ve los resultados logrados señalan una terapeutica en formas, que en su mayoria, han tenido mas de 2 años de evolucion clinica, que como se sabe, despues de ese tiempo, la mayoria de los autores no señalan ya resultados de mejoria, dato que adquiere mayor valor si tenemos en cuenta que, en estudios, como dijimos anteriormente, los tratamientos medicos o quirurgicos, o no daban resultados o eran mediocres, desde hacia mas de 6 meses.

Con este tipo de lesiones, tanto en la medula, el sistema nervioso y los musculos tienen parecido con el de las atrofias musculares progresivas, creimos por esto, que podcian aplicarse nuestras investigaciones, al tratamiento de los siguientes casos:

1. Usar la Hormona del Crecimiento. (Somatotropica)
2. Colocarla en la luz arterial, femoral o subclavia.
3. En esas condiciones inyectarla cada 8 dias.
4. Estudiar 9 casos de personas que oscilas de 6 a 35 años de edad, y llevan de sufrir este trastorno entre 2 y 31 años, durante un lapso de tiempo de 2 a 5 meses.

A continuacion se enuncian en breve resumen de los trastornos clinicos de estos enformos, de laboratorio y gabinete, y las bases para diagnosticar los, divididos en los dos tipos: Charcot-Marie y Aran-Duchene.

5. Estudiar durante el tratamiento estos puntos:

Aumento de temperatura cutanea en muslo y pierna. Aumento de tono muscullar; grosor de muslo, pierna, brazo y antebrazo, medido en centimetros.

Aumento de movimientos musculares con la clave del 1 al 5. Biopsia de un tibial anterior, en un caso del tipo de Charcot-Marie, y otra en uno de Aran-Duchene de biceps. Estudios electricos musculares. Capacidad para deambular, medido en % de incapacidad, como se expresara el describir los resultados logrados. Trastornos toxicos y observar si hay regresiones.

Discusion y Resultados. — Vamos ha dividirlo para su mejor exposicion en los siguientes incisos:

1. Consideraciones sobre el grosor de las extremidades, de 0.5 a 1 cmt de engrosamiento en muslo y pierna despues de 7 inyecciones (mes y medio).

La hormona ha provocado una mayor nutricion de los huesos, como se revela por las radiografias y su aumento de grosor; ademas excita los cartilagos de conjugacion, que como se sabe, es una prueba de la especificidad de la hormona en cuanto a su actividad, en las tibias de ratones como dice Cho Hao-Li.[20]

Se ha mejorado la nutricion del sistema nervioso, lo que facilita, los cambios metabolicos encontrados, los que favore cen los fenomenos que estamos analizando, y se revelan indirectamente, por mejoria o aparicion de reflejos tendinosos en algunos casos, y mejoria o aparicion de movimientos musculares en otros. Se ha mejorado la nutricion muscular por los movimientos que se apresian. Ha aumentado el numero de capilares, como se puede colegir, de todo lo que hemos dicho, y afirmar que el resultado de la biopsia, y las medidas que se han tomado, y las respuestas electricas.

Este mejoramiento del metabolismo celular que estamos señal ando se traduce ademas por el aumento det temperatura, iniciado desde los 5 minutos de la primera inyeccion.

Por lo tanto se ha aumentado el metabolismo celular y provablemente se logra la reproduccion de celdillas, que creemos que, en el sentido de lo que hemos encontrado no se habia obtenido en ningun otro tratamiento.

Estos fenomenos traducen, el por que, no solo se ha detenido la enfermedad, cosa que negaban la posibilidad Hoberman y Pier-Marie, sino que ademas se ha logrado mejorias que se relatan en el trascurso de este articulo.

2. El aumento de temperatura entre 2 y 4 grados termometro electrico, que se traduce en un major metabolismo de los tejidos de la extremidad, desde los primeros instantes y que prodique revela ademas, de lo asentado una admirable propiedad de la Hormona de Crecimiento, con este procedimiento que no recordamos haberla visto citada en la literatura mundial, en esta clase de trabajos.

3. El aumento del tono muscular; logrado en todos los casos, ese como dice Welcher debido ha una mejor relacione entre el nervio el musculo e indubablemente como suponemos con la medula espinal misma.

Este fenomeno indica, una nueva conexion entre celdillas nerviosas y musculares, que se encontraba muy disminuida o habia dasaparecido desde ha cia mucho tiempo.

4. Es sumamente interesante haber encontrado respuestas electricas respecto a la cerriente Faradica, Galvanica y estudios de Cronaxia. Ya que la opinion de los autores, hasta la fecha, era mas o menos, del terrible pesimismo de Brouardel, que decia: "De la reaccion electrica deficiente, solo se podran esperar resultados mas malos a medida que trascurre el tiempo."

5. Mejoria de los movimientos musculares, classificados del 1 al 5.

Se ha encontrado que cada mes mas o menos se refuerzan los movimientos este fenomeno traduce la armonia metabolica que se logra con el tratamiento al actuar este sobre las fibras musculares.

6. Consideraciones sobre la recuperacion de los pacientas para la marcha. Los datos que a continuacion vamos ha dar una idea aproximada de los resultados logrados.

En 2 casos del tipo Charcot-Marie, en que solo se podia andar con muletas y aparatos, es decir una incapacidad del 75%, se logra que solo anden con muletas, lo que traduce una recuperacion de un 25% para la marcha es decir se reduce la incapacidad a un 50%.

En otros 2 casos tipo Charcot-Marie, en

que solo se podia andar apoyando se, es decir un 50% de incapacidad, pueden caminar con dificultad, es decir solo les queda un 25% de incapacidad.

En 3 casos con marcha dificil unicamente, es decir 75% de incapacidad este se normaliza, esdecir dan un 100% de capacidad (Charcot-Marie).

En 2 casos tipo Aran-Duchene, en uno que no podia levantar un baso de agua, ahora ya puede hacerlo. En otro, que no podia escribir, ya lo puede hacer Son en ese sentido de 0% a 100%.

No se han encontrado trastornos toxicos.

No se ha observado hasta la fecha, regresiones en ningun caso.

RESUMEN Y CONCLUSIONES

En nueve casos de personas de ambos sexos, que tenian entre 4 y 32 años de edad, y que llevan de sufrir atrófias musculares progresivas entre 2 y 20 años; de los cuales 7 son de forma *"Charcot-Marie"* y 2 de tipo *"Aran-Duchene."* Al inyectar hormona de crecimiento cada 8 dias, en arteria subclavia para los miembros torácicos, y femorál, al nivel de pliegue inguinal, para los inferiores, *encontramos:*

Primero: Ha existido un aumento de 0′5 á 1 cm., en grosor, en las extremidades tratadas, cada 7 inyecciones (mes y medio).

Segundo: Ha aumentado la temperatura desde los 5 minutos de la primera inyeccion (la cual se conserva).

Medida con termometro eléctrico oscila entre 2 y 4 grados.

Tercero: Aumento del tono muscular.

Cuarto: Las respuestas electricas musculares, á Farádica, Galvánica y Cronáxia, han aumentado en 4 inyecciones de 10 á 8.

Quinto: Mejoria en los movimentos musculares, que traducen armonia metabólica, al actuar la Hormona sobre las fibras musculares.

Sexto: Recuperacion de los pacientes para la marcha. En 2 casos *"Charcot-Marie"* en que solo se podia andar con muletas y aparatos.

Septimo: Se ha encontrado un nuevo tratamiento para estas formas, el cual debe seguirse estudiando, ya que ofrece grandes perspectivas.

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> Millions of mothers who never heard of Semmelweiss would look to him with gratitude if they knew that he was the man who banished the greatest of all terrors of child-birth.
>
> —*Major*

Le Traitement Chirurgical des Phlébites des Membres Inférieurs

(Surgical Treatment of Phlebitis of the Lower Extremities)

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A study is made of a subject that has aroused great interest of late, namely, ligation of a thrombosed leg vein at its point of origin in the thigh. Ligation of the superficial femoral vein offers three distinct advantages:

1. It brings about a drastic reduction in the operative mortality rate.

2. It prevents the formation of emboli, which may be fatal. Although it does not completely eliminate the formation of small infarcts, the cases in which these occur are rare.

3. Any sequelae that may be encountered are of minor importance.

The authors' experience is outlined in terms of the clinical signs, diagnosis, surgical treatment and results.

La prévention et le traitement de la thrombose veineuse et de ses complications ont retenu tout particulièrement l'attention des chirurgiens au cours de ces dernières années. Tant en Europe qu'en Amérique, de nombreux auteurs se sont attachés à ce problème.

Si, en effet, les progrès modernes de la chirurgie ont diminué fortement les causes, si nombreuses antérieurement, de mortalité postopératoire, il nous en reste cependant un certain pourcentage, qu'il est malaisé de diminuer. Celui-ci est imputable aux embolies consécutives à une phlébite des membres inférieurs.

Si, il y a longtemps déjà, le professeur Mondor a conseillé la phlébectomie, si Leriche, Leger, Frileux y ont ajouté la thrombectomie d'aval, c'est cependant aux Etats-Unis surtout que les travaux d'Oschner, de Linton, de Allen et de tant d'autres, ainsi que ceux de Dos Santos ont attiré plus particulièrement l'attention sur les résultats particulièrement intéressants qu'apportait, dans la prévention de l'embolie, la ligature veineuse au niveau des membres inférieurs.

Burns notamment, en 1955, apporte une statistique de 748 cas dont 347 ont été traités médicalement et 369 chirurgicalement. Chez les premiers, le pourcentage de décès est de 37 pour-cent, chez les seconds, il n'atteint que 2,1 pour cent.

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A la suite de tant d'autres, nous avons nous même fixé plus particuliérement notre attention sur ce problème. Chaque année, en effet, nous payions à l'embolie mortelle un tribut pouvant atteindre 2 pour mille du chiffre total d'intervention (en y comprenant les actes mineurs de chirurgie courante pratiqués journellement dans un service de chirurgie générale).

A l'heure actuelle, depuis que c'est au traitement chirurgical que nous avons confié nos phlebites des membres inférieurs, cette mortalité par embolie a pratiquement été supprimée, à l'exception cependant des cas où le diagnostic précoce de cette phlébite n'a pu être posé à temps et où l'embolie est survenue avant ce moment.

Si, par ailleurs, les ligatures veineuses nous ont permis de diminuer encore le reliquat de mortalité opératoire, ce même traitement nous a permis également de diminuer de façon extrêmement importante les sequelles parfois dramatiques des phlébites profondes lorsque celles-ci évoluent progressivement vers la veine iliague ou la veine cave.

Ce traitement chirurgical consiste, ainsi que nous allons l'étudier maintenant, en une ligature du tronc veineux la plupart du temps au niveau de la bifurcation de la veine fémorale ou de l'abouchement de la veine saphène-interne dans la veine fémorale, avec thrombectomie d'aval.

Signes Cliniques.—1. Remarques générales:

a) L'importance des signes débutants d'une phlébite est mise en évidence par le fait que l'intervention chirurgicale ne peut amener de résultat satisfaisant et ne diminue de façon importante le risque d'embolie que pour autant que le diagnostic en soit posé de façon précoce.

L'intervention chirurgicale de *routine* ne peut en effet être envisagée efficace et anodine que pour autant que la phlébite n'en soit encore qu'au stade ou elle n'atteint que la veine fémorale superficielle dans sa partie poplitée, voire dans sa partie crurale, mais ne dépasse guère la bifurcation entre la veine fémorale superficielle et la veine fémorale profonde.

En ce qui concerne la phlébite de la saphéne-interne, le diagnostic précoce, particulièrement aisé dans ce cas d'ailleurs, doit se faire avant que le caillot n'ait eu le temps de se propager à la veine fémorale et à la circulation profonde.

Lorsque le caillot dépasse un de ces deux carrefours, il faut, pour que l'intervention soit efficace, qu'en cet endroit, le caillot soit encore libre dans la veine; en d'autres termes, que le stade de thrombophlébite n'y soit pas encore atteint. Ceci permet l'aspiration du caillot et l'espoir que de nouveaux phénomènes de thrombose ne se produiront pas au niveau d'une veine laissée libre, avec paroi intacte.

b) Une première distinction est extrêmement importante: c'est celle qui sépare la phlébothrombose de la thrombophlébite. Dans le premier cas, le caillot est libre dans sa plus grande partie et n'est attaché à la veine qu'à son extrémité. Le sang fluide circule autour de celui-ci et la veine n'est que peu ou pas altérée dans la majorité de son parcours.

Les signes cliniques de cette lésion sont donc minimes, car la paroi veineuse n'est guère sensible et la circulation de retour n'est pratiquement guère entravée. Dans le second cas, par contre, le caillot est adhérent tout au long de la paroi veineuse correspondante, cette dernière est douloureuse, il existe souvent de la périphlébite. Le sang ne peut plus emprunter cette voie importante de retour, la stase périphérique apparait et les signes objectifs sont nés.

c) Les sequelles et la gravité des complications post-phlébitiques dépendent, non seulement comme nous l'avons indiqué au paragraphe a) du niveau du caillot, mais également de son état de fixation à la veine. Si toute circulation de retour est bloquée définitivement, la stase risque de persister plus longtemps et les sequelles définitives seront probablement plus graves.

Si, par ailleurs, le caillot n'est guère fixé, mais flotte dans la lumière veineuse, ballotté par le courant sanguin, celui-ci se détachera beaucoup plus aisément et le risque d'embolie sera beaucoup plus grand. Nous en arrivons donc à conclure que la thérapeutique, quelle qu'elle soit, sera d'autant plus efficace que le diagnostic sera posé à l'aide des signes les plus ténus. En général, plus les signes cliniques sont importants, plus les sequelles postopératoires risquent d'être graves, mais moins le *danger d'embolie est important.*

C'est donc au début de l'affection, lorsque le caillot est libre, c'est-à-dire quand le danger d'embolie est grave et que les sequelles définitives ne sont pas encore nécessairement importantes, qu'il faut intervenir. Seul, un examen répété et minutieux des malades nous permet de poser précocement ce diagnostic.

Nous passerons d'abord en revue les signes débutants d'une thrombose de la veine saphène-interne puis nous étudierons les symptômes observés au cours d'une thrombose profonde de la veine fémorale.

2. La veine saphène interne ne se thrombose habituellement que lorsqu'elle est variqueuse. Localement, on constatera le cordon induré, rouge et douloureux; ce cordon peut remonter parfois au cours de quelques heures seulement, parfois après plusieurs jours, jusqu'à la région inguinale.

Le diagnostic est extrêmement simple. Le seul vrai problème est de s'assurer que le tronc veineux fémoral profond n'est pas atteint. Ceci n'est pas toujours aisé, étant donné que la douleur due à la thrombose de la saphène-interne se dissocie parfois bien difficilement de la douleur due à la thrombose fémorale.

Habituellement, c'est la localisation superficielle de la douleur, sa situation fort interne par rapport au mollet, l'absence fréquente d'oedème et surtout l'absence de signes généraux (accélération du pouls, angoisse, etc.) qui nous permettent d'exclure la localisation fémorale.

3. Les signes d'une thrombose fémorale profonde peuvent se diviser en plusieurs catégories:

a) l'interrogatoire du patient, orienté intentionnellement et journellement vers cette possibilité, est capitale. Il est évident que certaines interventions prédisposent formellement à la thrombose fémorale.

Ces interventions, telle que l'hystérectomie, la prostatectomie, l'amputation du rectum exigent incontestablement une surveillance attentive des membres inférieurs du patient. Les cardiopathies, l'obésité, la néoplasie prédisposent incontestablement, pour une même intervention, à la phlébite.

Toute courbe d'hyperthermie persistante chez un patient opéré d'une quelconque affection est toujours suspecte d'être à l'origine d'une complication phlébitique.

Une température oscillant entre 37,5° et 38° et persistant pendant plusieurs jours, est en effet une cause fréquente de complication thrombotique.

Tous ces malades sont systématiquement, 2 fois par jour, interrogés sur l'existence ou non d'une gène dans le mollet et à chaque fois, l'existence ou l'absence des signes repris ci-dessous est vérifiée.

b) Si le type de l'intervention, l'aspect du malade, l'état de la circulation veineuse des membres inférieurs nous font déjà, au départ, craindre le développement d'une phlébite, nous pouvons la suspecter dès que nous voyons le pouls s'accélérer et, si le patient était afébrile, la température s'élever à 37,2°, 37,5°, rarement beaucoup plus.

Le patient, habituellement, signale une gène, une sensation de crampe dans le mollet, souvent unilatérale. Parfois, des sensations paresthésiques et une pesanteur se font sentir. Le malade présente quelques difficultés pour se lever, il affirme souvent lui-même "ne pas se sentir bien," une angoisse incontestable est fréquemment observée. De temps à autre, le malade lui-même a constaté qu'une des deux régions malléolaires était légèrement tuméfiée.

c) L'examen du patient nous permet habituellement de confirmer le diagnostic: la palpation comparative du mollet atteint par le processus phlébitique montre incontestablement une tonicité différente d'un côté par rapport à l'autre. Le côté atteint est légèrement moins souple, moins hypotonique que le côté sain. La température en est légèrement plus élevée.

La palpation profonde du mollet entraine une gène relativement peu marquée, mais indubitable. Cette gène est bien localisée au niveau de la partie médiane de la face postérieure du mollet. Elle commence habituellement à un travers de main de la région malléolaire et se termine fréquemment juste en dessous du creux poplité, du moins dans les cas débutants.

La saphène-interne est, out nou, elle même phlébitique. La flexion dorsale du pied entraine, en raison de la compression veineuse qu'occasionne la tension des muscles du mollet, une gène que l'on rencontre dans les phlébites profondes et qui n'est qu'exceptionnelle dans les phlébites de la saphène-interne.

Afin d'éviter autant que possible une erreur de diagnostic, nous prescrivons habituellement pendant 24 heures un traitement à l'Héparine, associée à la mobilisation active. Le patient est revu plusieurs fois pendant la journée. Si la douleur reste unilatérale, si elle persiste, tant subjectivement qu'objectivement, si la flexion dorsale du pied entraine une gène dans la masse musculaire du mollet, nous considérons le diagnostic établi et nous intervenons comme décrit ci-dessous.

Divers auteurs, notamment Leger et Frileux font, à ce stade, systématiquement une phlébographie qui leur permet de confirmer ou d'infirmer le diagnostic.

Nous avons réalisé ces examens au début. Progressivement cependant, nous les avons abandonné parce qu'ils ne donnaient pas entre nos mains les résultats que nous en attendions. Peut-être avons nous eu tort.

Deux points doivent peser lourdement dans la décision opératoire éventuelle:

1. nous sommes adversaires d'une traitement aux anti-coagulants prolongé. A plusieurs reprises en effet, nous avons dû réintervenir chez des patients soumis à un tel traitement, en raison d'hémorragies intra ou extra-abdominales, bien qu'un laboratoire compétent les surveille régulièrement.

Dans plusieurs cas d'ailleurs, ce traitement n'a pas empêché la phlébite de progresser ni, à deux reprises, un embole de se produire.

Il est d'ailleurs bien certain qu'aucun traitement anti-coagulant n'est susceptible de faire disparaitre un caillot déjà formé, responsable lui-même de signes physiques.

Si ce traitement est capable, à un certain degré, d'empêcher la progression du caillot, celui-ci n'en persiste pas moins et constitue de par lui même tout le danger de l'embolie. Habituellement, nous ne prolongeons pas, chez un opéré, plus de 24 à 48 heures la durée de ces traitements aux anticoagulants.

2. Un petit embole chez un patient suspect de phlébite, ou même chez un patient qui ne présente au niveau de ses membres inférieurs aucun signe, nous enclint à poser l'indication opératoire.

Traitement.—Comme nous venons de le rappeler, habituellement, après un essai de 24 à 48 heures à l'Héparine qui nous permet de confirmer la persistance des symptômes, tout en empêchant, nous l'espérons. la progression trop rapide du caillot, nous intervenons chirurgicalement.

Cette intervention consiste, selon les cas, soit en une ligature de la veine saphène-interne, soit en une ligature de la veine fémorale superficielle, juste en amont de la veine fémorale profonde.

Nous n'aborderons évidemment pas la technique de la ligature de la veine saphène-interne, qui se fait par une minime incision transversale au niveau de la racine de la cuisse, avec ligature soigneuse de toutes les petites veines afférentes: épigastrique, circonflexe, honteuse externe, etc.

En ce qui concerne la ligature fémorale, nous procedons comme Leger et Frileux l'ont si bien décrit dans leur monographie. Rappelons-en l'essentiel: par une incision longitudinale le long des vaisseaux de la racine de la cuisse, nons isolons au niveau du triangle de Scarpa, le paquet vasculo-nerveux. La veine fémorale est prudemment mise en évidence, bien en dessous de sa bifurcation avec la veine fémorale profonde. Nous la remontons progressivement jusqu'à cette bifurcation. Il existe d'ailleurs à ce niveau une légère dilatation pratiquement constante.

Deux fils sont passés chacun deux fois, séparés de 2 à 3 cm autour de la veine. Ils servent de tracteur en même temps que de garot. La veine est incisée entre ces deux lacs, on s'assure alors de l'existence ou non d'un caillot dans la lumière dela veine. S'il n'en existe pas, la veine est liée et sectionnée entre ces deux ligatures, la ligature supérieure se trouvant juste en amont de la bifurcation veineuse. Si, par contre, un caillot est constaté, nous introduisons par l'ouverture pratiquée dans la veine, un cathétère en matière plastique, légèrement effilé, qui aspire le caillot au fur et à mesure qu'il pénètre.

Cette manoeuvre est éventuellement répétée jusqu'à ce qu'aucun fragment de caillot ne soit plus retiré.

Habituellement on s'assure aisément d'ailleurs que l'on retire la tête de ce dernier, car son aspect macroscopique en est absolument typique. De plus, à ce moment, un reflux de sang veineux fluide est observé, la veine est alors liée et la paroi fermée.

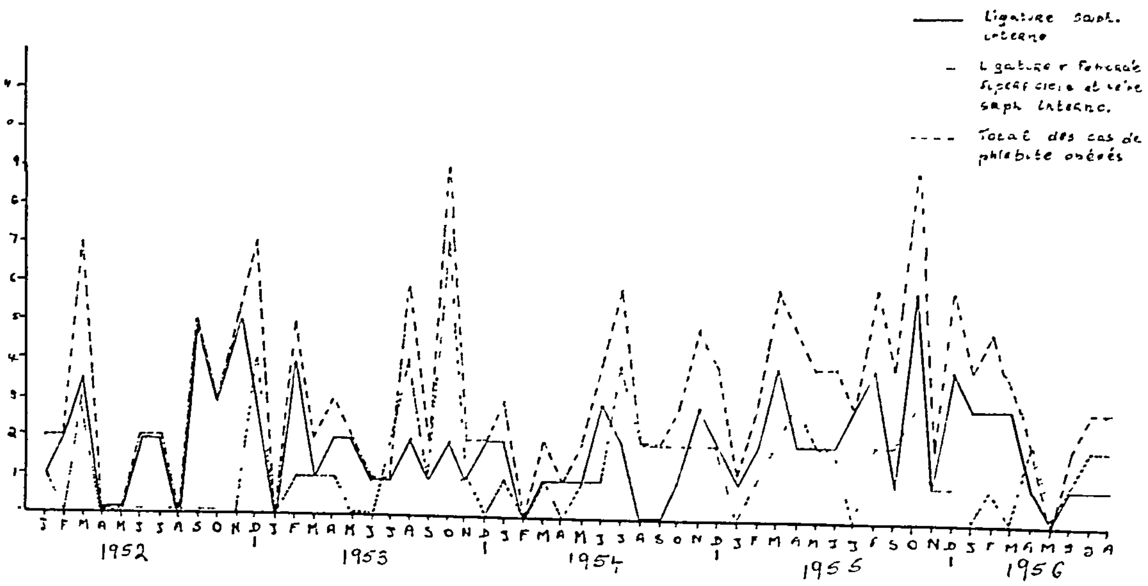
Les compresses sont pesées au cours de l'intervention et le sang perdu est éventuellement remplacé quantitativement. Cette quantité est d'ailleurs habituellement extrêmement minime.

Remarques importante: 1. Il y a intérêt à lier les veines fémorales superficielles des *deux* membres inférieurs, même lorsque les signes de phlébite, comme c'est habituellement le cas, sont unilatéraux. Si, au début, nous nous sommes contentés un peu par crainte des sequelles éventuelles de cette intervention de ne lier que le côté atteint, actuellement cependant, en raison d'une part de la bénignité de l'intervention et de ses suites, en raison d'autre part du danger incontestable que constitue la formation ou l'existence concomittante d'un second caillot hétéro-latéral, nous lions systématiquement les 2 veines fémorales superficielles.

A plusieurs reprises d'ailleurs, nous avons pu constater l'existence d'un caillot remontant jusqu'à la bifurcation fémorale du côté opposé à celui où les signes cliniques étaient les plus nets.

En somme, dans ce cas, du côté opéré, nous pourrions penser en être au stade thrombophlébite et du côté opposé au stade phlébothrombose.

2. A la ligature de la veine fémorale, nous ajoutons toujours, dans le même temps évidemment, la ligature de la veine saphène-interne. Cette dernière est, à notre avis, à recommander, par le fait que sa thrombose risque d'amener au niveau de sa jonction avec la veine fémorale commune, une tête de caillot lui-même générateur d'une thrombose progressive vers la veine iliaque. Nous n'avons observé



aucun inconvénient de cette pratique systématique.

3. Il est par ailleurs certain que si, à l'ouverture de la veine fémorale, on trouve adhérent à celle-ci un caillot que l'on ne peut aspirer, il faut évidemment reporter plus haut la ligature veineuse, soit à la veine iliaque, soit encore à la veine-cave, ce qui, à l'heure actuelle, ne s'est pas encore présenté dans notre expérience.

4. Lorsque nous procédons uniquement à la ligature de la veine saphène-interne, à aucun moment nous ne mettons en place de bandage élastique ni de botte de Unna. Nous évitons cette pratique dans le but de nous permettre un contrôle de la circulation profonde, et de nous assurer à tout moment que celle-ci n'est pas atteinte par un nouveau processus phlébitique. La mise en place d'un tensoplast ou d'une botte de Unna nous empêcherait en effet de réaliser cet examen de façon absolument certaine.

Ainsi que nous le rappelons plus loin, c'est d'ailleurs là que se trouve le danger de la ligature de la veine saphène-interne seule: à savoir qu'elle risque de ne constituer qu'une fausse sécurité et de laisser ignorer l'existence d'une thrombose fémorale consécutive, habituellement la seule vraiment dangereuse pour le patient.

5. Lorsque la ligature de la veine fémorale est pratiquée, en même temps d'ailleurs que celle de la veine saphène-interne, chaque fois nous procédons à la mise en place d'une botte de Unna, remontant jusqu'au genou, et à la mise en place d'un bandage élastique adhésif depuis le genou jusqu'à la racine de la cuisse.

La botte de Unna a l'avantage, sur le bandage adhésif, d'être moins irritant pour la peau, surtout au niveau du mollet et partant, est mieux tolérée. En revanche, elle ne peut être remontée jusqu'au dessus du genou sans provoquer à ce niveau une difficulté marquée à la mobilisation, elle-même importante chez ce type d'opérés.

Ces bandages empêchent le gonflement éventuel du membre inférieur; ils sont laissés en place pendant 6 semaines.

6. Après l'intervention qui se pratique généralement sous anesthésie générale, nous insistons auprès du malade pour qu'il se lève immédiatement, qu'il mobilise au maximum pour éviter évidemment qu'une nouvelle thrombose ne se produise au

dans un autre cas, un ulcère nouveau s'est présenté.

Toujours sur 134 patients (39 n'ont pas été revus et 2 sont décédés, ainsi que rappelé ci-dessus), 20 patients présentent un gène légère à la marche, 2 patients présentent une gène continue, les autres ne signalent aucun trouble semblable.

2. Résultat de la ligature de la veine fémorale superficielle et de la veine saphène-interne:

Remarquons tout d'abord que la majorité des patients atteints d'une thrombose fémorale affirment spontanément, tout de suite après l'intervention, être manifestement améliorés.

L'angoisse de la phlébite a compètement disparu et c'est spontanément que la patient confirme à son médecin qu'il ressent une impression de sécurité, même s'il n'a pas été tenu au courant du but réel de son intervention, à savoir d'empêcher une embolie mortelle.

L'étude des patients que nous reprenons ci-dessous s'échelonne sur une période qui s'étend également du mois de janvier 1952 au mois de décembre 1958. Cent et neuf cas ont été opérés pendant cette période, parmi lesquels 39 hommes et 70 femmes.

L'âge des patients s'échelonne entre 21 et 87 ans. Sur les 109 patients, 87 ont été opérés des 2 côtés, 8 du côté droit, 13 du côté gauche.

Un patient, ainsi que nous le rapportons ci-après, est décédé sur la table, d'embolie, avant que nous ayions eu la possibilité d'endormir le malade.

Dans 25 cas, le caillot remontait jusqu'à la bifurcation de la veine fémorale superficielle et de la veine fémorale profonde, nécessitant une thrombectomie d'aval, suivie de la ligature de la veine.

Dans 83 cas, la veine fémorale était libre au niveau de sa bifurcation, le caillot ne remontant vraisemblablement que jusqu'à la bifurcation poplitée.

a) Répartition des phlébites fémorales selon leur causes.

Causes prédisposantes	*Nombre de cas*
Médicales	19
Accouchement	5
Colectomie	6
Hystérectomie	13
Amputation du rectum	7
Cystostomie	1
Prostatectomie	16
Hernie étranglée	3
Appendicite	3
Anus iliaque	1
Cholécystectomie	8
Pancréatite	1
Amputation de la jambe hétérolatérale	1
Préventif	1
Thyroidectomie	1
Halsted	2
Prolapsus	3
Gastrectomie	3
Ovariectomie	2
Hernie diaphragmatique	1
Curetage	3
Cystectomie	1
Sympathectomie	2
Cancer de la verge	1
Traumatisme	3
Lésion du genou	2

Ce pourcentage n'est pas absolu, étant donné que la fréquence des affections causales n'est pas la même. De cet ensemble, 22 patients présentaient une affection cancéreuse.

Le nombre de jours qui s'est écoulé entre le moment de l'intervention causale et le moment de l'opération de la phlébite varie entre 3 et 25 jours; il est en moyenne de 9 jours.

b) Résultats immédiats: Sur les 109 patients opérés de ligature concomittante de la veine fémorale et de la veine saphène-interne, un patient est mort sur table, d'embolie massive, avant que nous n'ayons eu le temps de l'endormir.

Il ne nous semble évidement pas pouvoir être mis à charge de l'intervention chirurgicale.

Deux autres malades sont décédés ultérieurement de complication cardiaque, secondaire elle-même à un état cardiaque grave, antérieur à l'intervention.

Cet état s'est aggravé après la première opération causale: un de ces malades était d'ailleurs âgé de 87 ans.

Aucun décès postopératoire immédiat réel n'a été observé chez les 108 patients opérés de ligature fémorale. Dans 6 cas, un embole postopératoire léger a été observé. Il s'agissait, dans ces 6 cas, d'une ligature fémorale bilatérale cependant.

Ces emboles provenaient vraisemblablement d'un caillot logé dans une veine pelvienne.

L'existence de larges communications entre les 2 veines fémorales superficielle et profonde peut parfois expliquer ces petits emboles secondaires.

Nous pouvons affirmer de façon formelle que, dans notre service, avant l'instauration systématique de la ligature fémorale pour les phlébites débutantes, nous comptions un à deux pour mille de décès par an, attribuables à une embolie massive.

Depuis 2 ans, nous pratiquons systématiquement la ligature fémorale et saphène-interne. Aucun décès semblable n'a pu être observé: le résultat nous semble donc spectaculaire.

Selon Burns d'ailleurs, 37% des patients atteints de phlébite et traités médicalement présentent une embolie mortelle.

c) Sequelles tardives de la ligature de la veine fémorale superficielle.

Etudions maintenant les sequelles ultérieures de la ligature fémorale.

Des 109 patients opérés depuis janvier 1952 jusqu'en décembre 1958, nous devons soustraire un malade décédé avant l'intervention, 2 malades décédés de complications cardiaques ultérieures, 4 autres patients sont morts d'autres affections intercurrentes (3 néos et une hémorragie digestive), 6 malades n'ont pas été revus, un autre, opéré concomitamment d'évidement ganglionnaire inguinal bilatéral, ne peut évidemment être pris en considération quant aux troubles circulatoires ultérieurs.

Nous avons donc revu en tout 95 malades, dont nous décrivons ci-dessous les sequelles:

	Nombre de cas
Aucun oedème	33
Oedème vespéral léger	46
Oedème permanent léger, aggravé par la fatigue	16
Oedème important	0

Cet oedème, presque toujours, se localise du côté du membre cliniquement atteint par le processus phlébitique.

Etat des varices existant éventuellement avant l'intervention:

amélioré	62 patients
statu quo	6 patients
aggravé	0 patient

Aucun malade n'a vu réapparaitre de varices après son intervention. Aucune nouvelle ulcération des jambes n'a été observée sur un délai de plus de 4 ans pour certains malades.

En ce quie concerne les douleurs postopératoires, nous observons 28 patients qui présentent une gène à la marche, un patient présente une gène au repos, 66 patients ne signalent aucune douleur.

Ces résultats prouvent donc de façon indiscutable que les ligatures fémorales superficielles et saphène-internes ne laissent pratiquement guère de sequelles, celles-ci n'apparaissent en géneral que du côté atteint cliniquement par le processus phlébitique, elles sont infiniment moindres que celles observées au cours d'une phlébite évoluant spontanément vers une thrombose da la veine iliaque et de la veine-cave. Sur les 95 patients revus, nous pouvons certainement admettre que cette propagation se serait produite plusieurs fois.

CONCLUSIONS

1. La phlébite des membres inférieurs est surtout fréquente chez les opérés du petit bassin, plus particulièrement chez ceux opérés d'une affection néoplasique. L'âge moyen des patients est de 51 ans.

2. La ligature de la veine saphène-interne seule amène un certain bénéfice, en ce sens qu'elle empêche incontestablement la propagation du caillot vers la veine fémorale et qu'elle empêche la libération

du caillot vers la circulation, veineuse avec infarctus pulmonaire; elle entraine également une amélioration de l'état local des varices.

Par contre, elle ne met évidemment pas la patient à l'abri d'une phlébite profonde et d'un embole, au départ de celle-ci.

Le danger de la ligature saphène-interne est donc plutôt dû à une fausse sécurité que dans l'intervention elle-même.

On peut, à notre avis, continuer à pratiquer cette intervention, mais surveiller étroitement le malade.

3. La ligature de la veine fémorale superficielle en amont de sa jonction avec la veine fémorale profonde, conjuguée à la ligature de la veine saphène-interne, met le patient à l'abri de toute embolie importante, à condition qu'elle soit faite de façon bilatérale.

La mortalité opératoire est pratiquement nulle, le bénéfice en est donc extrêmement important, car il s'agit là d'une mortalité particulièrement difficile à réduire après que, à l'aide de progrès techniques et médicamenteux modernes, les autres causes ont été progressivement éliminées.

4. Les sequelles des ligatures veineuses fémorales sont très peu importantes. Aucun des 95 patients revus n'est handicapé par son intervention. Il existe, chez certains d'entre eux, un très léger oedème vespéral et parfois un peu de gène à la marche, avec sensation de pesanteur.

Cet oedème se localise d'ailleurs presqué toujours du côté où se trouvait le caillot.

Les sequelles sont extrêmement minimes en comparaison de celles que l'on est habitué à voir chez des malades atteints d'une thrombophlébite profonde non opérée, propagée jusqu'à la veine fémorale commune. Elles sont suffisament peu importantes que pour nous permettre de lier une veine fémorale, même si celle-ci était atteinte d'une phlébite qui aurait spontanément régressé ou même comme parfois du côté hétérolatéral, ce processus phlébitique n'y a pas encore débuté.

5. Le traitement chirurgical de la thrombophlébite par ligature fémorale a l'avantage d'éviter l'utilisation d'anticoagulants qui, chez des opérés, constitue palgré tout un danger incontestable d'hémorragie, soit intra-abdominale, soit au niveau de la cicatrice.

La ligature fémorale n'empêche pas de façon complète la formation de petits emboles qui peuvent provenir de veines secondaires, surtout pelviennes, voire fémorales profondes. Cependant, ces emboles sont, dans notre expérience, extrêmement bénins et rares.

6. Le problème de l'intervention préventive consistant à lier les veines fémorales chez des patients que l'on opère d'interventions thrombogènes (hystérectomie, prostatectomie, néos abdominaux, etc.) peut incontestablement être envisagé.

Nous pensons cependant que si le patient est surveillé attentivement une ou deux fois par jour, si on attire son attention sur l'importance d'une gène éventuelle dans le mollet, il est bien difficile de passer à côté dû diagnostic précoce de la phlébothrombose.

Au contraire, si le malade ne peut être surveillé étroitement, l'indication de la ligature préventive est certainement plus logique.

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Seccão em Portuguéz

Consideracões Sõbre 299 Casos de Cancer do Estômago

(Data on Two Hundred Ninety-Nine Cases of Carcinoma of the Stomach)

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A statistical study is presented on the basis of a study of 299 cases of gastric carcinoma and its treatment. Surgical intervention is discussed from the curative, palliative and investigative points of view. In tabular form are presented the duration of carcinoma at the time of treatment, the type of tumor present, the type of anesthesia employed for operation and the results of treatment from the three points of view aforementioned.

AS considerações que vamos fazer a respeito do cancer do estômago, foram baseadas numa experiência pessoal que ascende a cerca de três centenas de casos operados. Não é, como se vê, uma estatística muito vultosa, mas já pode nos dar alguns ensinamentos e por isso mesmo é merecedora de ser exposta e analizada.

Conseguimos reunir um conjunto de 299 casos por nós operados. Desses, 266 eram em homens e 73 em mulheres, dando a percentagem de 75,6% para o sexo masculino e 24,4% para o sexo feminino, isto é: uma proporção de 3 homens para uma mulher. Sabemos que a incidência das afecções ulcerosas benignas do estômago é bem mais acentuada para o lado do homen do que da mulher: já no cancer gástrico a moléstia atinge um maior número de mulheres, não chegando, entretanto, à mesma proporção que incide para com os homens. Os dados que nós colhemos são mais ou menos concordes com os dados de outras estatísticas que focalizam o assunto.

Interessantes são os números que conseguimos coligir a respeito da idade com que os doentes foram operados. Tivemos o caso mais precoce aos 26 anos de idade e o caso mais tardio aos 84 anos de idade: entre esses limites extremos, verificamos que varía a incidência de acôrdo com a idade, para atingir o seu ápice no lustro dos 46 aos 50 anos, verificando ainda que na década dos 46 aos 55 anos a incidência é maior, porquanto ela atinge a dois terço dos casos. É nesse período de idade, pois, quando devemos ter mais cuidados em pesquizar a existência de um cancer de estômago, cujo diagnóstico, como tivemos já a oportunidade de acentuar, é bastante dificil no inicio da afecção. È curioso que,

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se arrolarmos os casos de acôrdo com a idade por lustros, verificamos que há uma curva ascendente até o periodo dos 46 aos 50 anos, para depois haver uma regressão nos lustros seguintes. Verificamos também que depois dos 65 anos o cancer e quasi tão raro como na idade do seu mais precoce aparecimento. Dos 26 aos 35 anos tivemos 5,7%, o que não é uma incidência baixa, mostrando também que devemos ter a preocupação de, em pessoas relativamente jovens, pensar na possibilidade da existência de um cancer gástrico. Essa percentagem subiu para 16% dos 36 aos 45 anos, atingiu 35,4% na década de maior frequência: e caiu para 28% na década dos 56 aos 65 anos, baixando a 11% dos 66 aos 75 anos para se limitar a 1,3% depois dos 75 anos.

Considerações pouco interessantes poderiamos fazer a respeito da época do aparecimento dos primeiros sintomas que os doentes filiam à sua enfermidade. E' que os números não traduzem nesse particular uma realidade e isso é facil de se compreender. Verificamos, por exemplo, que os doentes acusavam os seus primeiros sintomas com menos de 6 meses em 36% dos casos: de 6 meses a um ano em 19,4%: de 1 ano a 2 anos em 10,8%: de dois a três anos 4,4%: mais de três anos 24%: e em 5,4% não pudemos apurar a época do inicio da moléstia. A primeira impressão que nos dão esses números é a de que mais de ⅓ dos doentes, precisamente os 36% que se queixavam de estar sofrendo apenas a 6 meses, teriam recorrido ao médico em tempo útil ou a de que o médico teria feito o devido diagnóstico em tempo útil para o tratamento. Mas, na verdade, isso não ocorre. Há doentes que nos chegam dizendo que apenas sofriam a dois ou três meses e, entretanto, apresentavam tumores já inoperáveis com grande difusão pela cavidade abdominal e extenso comprometimento de orgaõs vizinhos, de sorte que essa informação da anamnese sôbre o inicio dos sintomas não é uma informação segura para se avaliar da evolução da doença ou da precocidade do tratamento. Há casos, mesmo,—tivemos um ainda recentemente —em que a sintomatologia é a mais frusta possivel. O doente não apresentava dôr, tinha apenas perturbações dispepticas pouco acentuadas e um clinico atilado, através do diagnóstico da radiologia, poude chegar a um diagnóstico de cancer, mandando-o para a cirurgia: entretanto, quando abrimos o abdomen desse individuo, que era um individuo gordo e bem corado, encontramos um tumor inoperável espalhando-se por todo o abdomen superior. Assim, a sintomatologia subjetiva nem sempre pode dar-nos uma ideia exata do gráu de evolução da moléstia. Em nossa estatística, fizemos a separação das informações prestadas pelos doentes sôbre o inicio dos sintomas em períodos curtos até nos aproximarmos dos três anos, porque em geral a evolução de um cancer de estômago não passa dos três anos: pode, em alguns casos, ir além, mas na generalidade ao fim de três

Quadro 1.—Idade

	No.		%	
De 26 a 30 anos	9	17	5,7	
De 31 a 35 anos	8			
De 36 a 40 anos	16	48	16,0	
De 41 a 45 anos	32			
De 46 a 50 anos	57	106	35,4	⅔
De 51 a 55 anos	49			
De 56 a 60 anos	46	84	28,0	
De 61 a 65 anos	38			
De 66 a 70 anos	19	33	11,0	
De 71 a 75 anos	14			
De 76 a 80 anos	1	4	1,3	
De 81 a 84 anos	3			
Sem indicação	7	7	2,5	
	299	299		

Quadro 2.—Natureza do Tumor

		No.	%		%
Adenocarcinoma	134	141	54,6	241 ou	93,4
Adenocarcinoma gelatinoso	5				
Adenocarcinoma papilifero	2				
Carcinoma	26	100	38,8		
Carcinoma gelatinosos	35				
Carcinoma infiltrante	20				
Carcinoma esquirroso	7				
Carcinoma medular	7				
Carcinoma alveolar	2				
Carcinoma indiferenciado	2				
Carcinoma globocelular	1				
Linfosarcoma	6			17	6,6
Sarcoma	6				
Reticulo-sarcoma	1				
Leiomioma	3				
Mixoma	1				
Tumor de Krukenberg	6				

anos com ou sem operação o caso está chegando ao seu término, a não ser que a operação tenha sido eficiente. Foi esse o critério que nos guiou para fazer esta divisão até os três anos, arrolando os de mais de três anos em um só grupo. Se considerarmos os doentes que acusavam sofrimento a mais de três anos, vamos encontrar a alta quantidade de 24%. Isso poderia significar que esses doentes eram portadores de úlcera do estômago que se tinham cancerizado, donde acreditar-se que a cancerizaçao de úlcera ocorre em ¼ dos casos de cancer do estômago, quer dizer: em cada 4 casos de cancer, um deles seria decorrente da existência de uma úlcera que se transformou em afecção maligna no decurso da sua evolução. Parece que isso não é bem a realidade, proque se há autores que afirmam a possibilidade de cancerização da úlcera—alguns mesmo dizem que 38% das úlceras podem se cancerizar—a grande maioria assinala porcentagens bastante reduzidas e há mesmo alguns que negam a interferência da úlcera no aparecimento do câncer gástrico, dizendo que são moléstias completamente independentes. Não estamos de acôrdo com este ponto de vista, porque temos casos comprovados da cancerização de úlceras antigas, documentadas pela radiologia, pela historia clinica do doente e pelo exame histológico da peça cirúrgica.

Tudo isso que acabamos de dizer vem mostrar nos que as estatíticas precisam ser bem compreendidas e bem analisadas para que se possa tirar delas conhecimentos ou conclusões que nos sejam uteis.

Outros dados interessantes que nos forneceu o estudo dessas 3 centenas de casos por nós operados, são aqueles relativos à natureza do tumor existente no estômago. Verificamos que o adenocarcinoma é o tumor mais frequente entre os canceres do estômago. O adenocarcinoma simples foi encontrado em 134 casos: adenocarcinoma gelatinoso em 5: adenocarcinoma papilifero em 2, dando um total de 141 casos com uma porcentagem de 54,6 do total. Os carcinomas não adenomatosos, carcinoma simples, gelatinoso, infiltrante, esquirroso, medular, alveolar, indiferenciado, globo celular, de acôrdo com a nomenclatura que nos forneceram os anatomopatologistas, estão representados em 100 casos, isto é: em 38,8% da totalidade da nossa estatística, mostrando-nos que esses dois grupos reunidos dão 93,4% dos casos por nós operados, ou seja 241 em 258 casos com exame histológico. Os restantes ou não foram histológicamente esclarecidos em virtude de falhas da biópsia feita ou de inadequado preparo do material colhidono ato da cirurgia ou, então, são casos de linfosarcoma em número de 6; de sarcoma em número de 6; de reticulo-sarcoma em número de 1: de leiomioma em número de 3; e de mixoma em número de 1. Isso traduz uma percentagem de 6,6% para os tumores mesenquimais que perfazem o total de 17 casos.

Os casos restantes, como dissemos, não tiveram a sua natureza esclarecida. Todos sabemos como muitas vezes é dificil obter-se uma boa biópsia em casos avançados em que não se faz a ressecção da peça. O cirurgião se limita a retirar um fragmento de epiploon ou um gânglio que lhe parece comprometido. Muitas vezes esse gânglio é apenas um ganglio inflamatório e a biópsia, assim, resultou inutil para o esclarecimento da natureza do tumor. Outras vezes, a falha não é propriamente do cirurgião, mas de quem prepara os blocos da inclusão ou de quem prepara os cortes histológicos, não tomando fatias justamente naqueles pontos onde estavam as celulas metastáticas, e, então, o analista ao examinar suas laminas não pode fazer o diagnóstico do tumor. Isso nos ocurreu infelizmente em algumas vezes, diminuindo portanto o total dos casos em que pudemos ter o esclarecimento completo da natureza do tumor.

Ainda queriamos nos referir a uma série de casos em que encontramos além do tumor gástrico um tumor de Krukenberg. Como todos sabem, o tumor de Krukenberg é um tumor metastático do ovário, decorrente de tumor do tubo digestivo, geralmente de tumor do estômago. Encontramos tumor de Krukenberg associado a um adenocarcinoma em 2 casos; associado a carcinoma infiltrante em dois casos; associado a carcinoma gelatinoso em um caso; associado a carcinoma esquirroso em um caso; Não sabemos se esta nomenclatura histológica possa ter qualquer influência sôbre o ponto de vista de se firmar o diagnostico de tumor de Krukenberg. Este cancer foi descrito com certos caracteristicos e tem merecido uma serie de discussoes. Mesmo em São Paulo, na Associação Paulista de Medicina, houve a cerca de 20 anos atrás, uma discussão muito acalorada sôbre o aspecto microscópico do tumor de Krukenberg. Pode haver coincidência de outro tipo de tumor do ovário com cancer do estômago; tivemos em nossa série mais um caso de tumor concomitante do ovário em que o anatomopatológista afirmou não se tratar de tumor de Krukenberg, mas sim de um carcinoma de ovário sem os característicos dessa entidade mórbida como corolário, tivemos, também, em nosso Serviço, mais dois casos de tumor de Krukenberg—um com cancer primitivo da sigmóide e o outro com cancer primitivo do transverso. Em todos esses casos de tumor de Krukenberg o prognóstico foi muito severo. E' facil compreender-se que a morte sobrevinha a curto prazo, pois a localização de metastáses no ovário é sinal seguro de disseminação do câncer primitivo. Ribert mostrou que o cancer gástrico se inicia na submucosa, partindo da parte profunda dos tubos glandulares, onde existe o centro germinativo normal. A propagação se faz para a superficie da mucosa ou para a camada muscular, geralmente em ambos os sentidos e em extensão, graças à rica rede linfática da submucosa, muita vez minando a mucosa de aparência normal. A propagação pelos linfáticos pode ser feita também por via retrograda e às vezes as celulas cancerosas podem cair no canal torácico e então pode haver, por via sanguinea, o aparecimento de metástases no pulmão, fato relativamente raro. As metastases por via retrograda, como as

Quadro 3.—Anestesia

	Number	%
Geral	168	56,0
Local	71	24,0
Raqueana	60	20,0
	299	100

Cirurgia Empregada

	Number de casos	%
Cirurgia curativa	192	64,1
Cirurgia paliativa	56	18,8
Cirurgia verificadora	51	17,1
	299	

que determinam o tumor de Krukenberg dão-se em consequência da obstrução de canais linfáticos ao nível de gânglios, sendo a corrente linfática obrigada a refluir pelos linfáticos aferentes. A via sanguinea também pode ser observada na propogação do cancer do estômago, dando frequentemente metástases no fígado, geralmente multiplas, por intermédio da veia porta. A propagação por implantação também pode ser observada na chamada carcinomatose miliar peritoneal.

Quanto ao tratamento empregado, a nossa estatística acusa os seguintes dados, que podemos dividir em três grupos, classificando-os desta maneira: cirurgia curativa, cirurgia paliativa, e cirurgia verificadora.

Como cirurgia curativa designamos aquela em que a agressividade operatória é feita no intuito de remover o tumor e as suas metástases visiveis, quer dizer: naqueles casos em que o cirurgião age visando curar o seu doente, embora ele saiba que em boa porcentagem dos casos esse seu empenho não será realizado; como cirurgia paliativa nós classificamos aqueles casos em que o cirurgião sabe de antemão que não vai curar o doente, mas vai fazer alguma coisa em seu beneficio visando aliviar uma parte dos sofrimentos, sem contar propiamente com uma cura, porquanto a extensão da moléstia ou a sua localização não lhe permittem ter essa esperança; como cirurgia verificadora, arrolamos os casos em que ao cirurgião apenas resta a confirmação de um diagnóstico previamente feito ou de um diagnóstico feito no ato cirúrgico, tal o avançado do processo mórbido. São casos em que apenas se faz o que o prof. Luiz do Rego chamava de "cirurgia verificadora."

Visando uma cirurgia curativa, agimos em 64,1% dos casos ou em 192 casos; uma cirurgia paliativa em 18,8% ou em 56 casos; e uma simples cirúrgia verificadora em 17,1% ou em 51 casos. Em grandes Serviços europeus e norte-americanos ainda a bem pouco se acentuava que geralmente não se podia chegar a fazer uma cirurgia curativa em 50% dos casos; ultimamente, porém, com os progressos da técnica cirúrgica e os da anestesia, a operabilidade já alcançou numeros mais elevados e acreditamos que estes 64% conseguidos em nosso Serviço estão se ombreando com as melhores percentagens desses grandes Serviços.

Nesses 192 casos de cirurgia curativa empregamos a gastroduodenectomia subtotal em 96,9% quasi 97% dos casos; a gastrectomia total em 5 ou 2,6% dos casos e a excisão simples do tumor em 1 ou 0,5%. Em muitos casos fizemos a técnica de Polya simples; em outros associamos essa técnica ou à ressecção do transverso ou à esplenectomia ou à colecistectomia e em 2 casos empregamos a técnica do Billroth I.

Quanto à cirurgia paliativa os números mais elavados se referem à alcoolização dos mesos. Este foi um método por nós

Quadro 4.—Cirurgia Curativa

Cirurgia curativa 192 ou 64,1%	Gastroduodenectomia subtotal 96,9%	186	Polya simples	180
			Polya + ressecção do transverso	2
			Polya + esplenectomia	1
			Polya + colecistectomia	1
			Billroth I	2
	Gastrectomia total 2,6%	5	Simples	4
			Com esplenectomia	1
	Excisão do tumor 0,5%	1		1

usado desde muito com a finalidade de aliviar o paciente de dôres nos canceres inoperáveis e em muitos casos tivemos a alegria de verificar que realmente os doentes foram aliviados de grande parte dos seus sofrimentos, evitando aquele emprego mais ou menos precoce dos entorpecentes. Empregamos a alcoolização dos mesos exclusivamente em casos inoperáveis. Em 30 enfermos usamos sómente a alcoolização; ela foi associada à gastro-jejunostomia em 3 casos; fizemos gastrojejunostomia descompressiva em casos estenosantes em 18 casos; usamos a jejunostomia para alimentação do doente em 2 casos; ensaiamos uma vez a vagotomia, sem resultado apreciavel; fizemos também uma vez a sutura simples de uma perfuração de cancer do estômago e, de outra feita, apenas nos limitamos a uma drenagem do peritoneo.

Quanto à cirurgia simplesmente verificadora, tivemos o desprazer de a empregar em 51 casos ou — 17% dos nossos enfermos.

Quanto à anestesia tivemos a oportunidade de usar a anestesia geral em 168 casos ou em 56% deles; a anestesia local ou loco-regional, em 71 ou 24% e a anestesia raqueana em 60 casos ou 20%. Atualmente temos empregado sistemáticamente a anestesia geral, dado os progressos da anestesiologia e isso com resultados muito apreciáveis, mas por muito tempo empregamos não só a anestesia requeana como também a anestesia tronco-regional, que nos deram muitas oportunidades de realizar intervenções plenamente satisfatórias. Entretanto, verificamos que a anestesia logo-regional produzia com muita frequência perturbações ou complicações torácicas ou pulmonares e a requeana, numa cirurgia mais extensa, como é a cirurgia do cancer gástrico, nem sempre é suficiente, necessitando de complementação por uma anestesia local.

Quadro 5.—Cirurgia Paliativa

Cirurgia Paliativa 56 ou 18,8%	Alcoolização dos mesos	30
	Gastrojejunostomia	18
	Gastrojejunostomia + alcoolização	3
	Jejunostomia	2
	Vagotomia	1
	Sutura de perfuração	1
	Drenagem do peritoneo	1

Quadro 6.—Cirurgia Verificadora

Cirurgia verificadora 51 ou 17,1%	Laparotomia e biopsia	51

Quadro 7.—Natureza do Tumor em Doentes com Sobrevida Longa

Adenocarcinoma com	20, 16, 13, 12 e 9 anos
Adenocarcinoma gelatinoso com	12 anos
Carcinoma globocelular com	15 anos
Carcinoma com	12 anos
Carcinoma gelatinoso com	11 anos
Sarcoma com	25 anos
Linfosarcoma com	8 e 9 anos
Leiomioma com	9 anos

Nos casos de gastrectomia total, tivemos morte hospitalar em 2 deles; um dos enfermos morreu 6 meses depois da intervenção, outro 9 meses depois e o último 14 meses depois da intervenção. Em nenhum tivemos uma sobrevida satisfatória pois, a maior alcançada foi de 14 meses. Estes nossos dados estão de acôrdo com os dados recentes da literatura, que nos mostram que a gastrectomia total deve ser uma intervenção exclusivamente de necessidade, para aqueles casos de cancer que ocupam a cupula gástrica ou a região da cardia. Só então é que se deve fazer a gastrectomia total. Quando existe um cancer do corpo e principalmente quando existe um cancer do ântro gástrico, que são os mais frequentes, nós devemos nos limitar a uma gastrectomia subtotal, que é uma gastrectomia que dá resultados tão bons ou talvez melhores que a gastrectomia total, sem apresentar os riscos e as consequências desta. Todos aqueles que com o entusiasmo das novidades haviam pregado a realização de gastrectomias totais já voltaram atrás e hoje as publicações médicas estão cheias de opinioes alertando nos de que devemos reservar a gastrectomia total somente para os casos de extrema necessidade. Isso está de pleno acôrdo com a orientação que vimos a muitos anos seguindo em posso Serviço.

E' interessante verificarse a sobrevida que tiveram os nossos pacientes, justamente para termos uma ideia do resultado do esforço feito em seu beneficio. Verificamos que dentro dos primeiros 6 meses faleceram 101 dos nossos 299 enfermos e que dos 6 meses a um ano morreram 33 deles, dando um total de 134 falecidos no *fim do primeiro ano.* Assim, 44,8% dos 299 doentes operados faleceram dentro do período de um ano depois da intervenção. Eram casos geralmente muito avançados, mostrando quão tardiamente os cancerosos chegam às mãos do cirurgião.

Se formos analisar apenas os casos do grupo em que a intervenção foi feita com intuito curativo, isto é: nós casos em que fizemos a ressecção gástrica, os resultados serão então muito mais significativos.

Podemos então, apresentar no quadro abaixo os números relativos à sobrevida.

A mortalidade hospitalar foi de 12,6%; é relativamente alta, mas deve se levar em conta que compreende casos operados antes da época dos antibióticos e da melhoria dos cuidados pré e posoperatórios No cancer é cerca de 10 vezes mais elevada que na úlcera. Vejamos as causas dos óbitos:

Choque operatório	7
Cardiopatias	7
Deiscência de sutura	3
Hemorragia	3
Pneumonia	2
Uremia	2
	24

Quadro 8.—*Resultado do Cirurgia Curativa*

		No. de Casos	%
Mortos no posoperatório imediato		24	12,6
Faleceram durante o primeiro ano		50	26,2
Faleceram durante o segundo ano		24	12,6
Faleceram durante o terceiro ano		10	5,2
Faleceram durante o quarto ano		5	2,6
Faleceram aos cinco anos		3	1,6
Faleceram após oito anos		1	0,5
Estão vivos:			
com 25 anos	1		
com 20 anos	1		
com 16 anos	1		
com 15 anos	1		
com 13 anos	1		
com 12 anos	3		
com 11 anos	1		
com 9 anos	4		
com 8 anos	1		
com 7 anos	2		
com 5 anos	2		
com 4 anos	9		
com 3 anos	5		
com 2 anos	4		
com 1 ano	7		
com 1 ano	5		
	48	48	25,1
Mortos por intercorrência (9½ e 2½ anos)		2	1,0
Decorrência ignorada		24	12,6

Certo que com os progressos ultimamente introduzidos nos cuidados aos doentes o chamado choque operatório praticamente desapareceu das estatísticas, para isso também concorrendo a melhor avaliação da cansa mortis, graças a exames a assistência especializados a que hoje recorremos. Mesmo as mortes por falêcia do sistema circulatório são hoje em boa parte evitáveis, com o concurso do internista, a quem o cirurgião confia o preparo do operando e a quem recorre, quando necessário, no período posoperatório. As complicações pulmonares são agóra facilmente debeladas com o auxilio dos antibióticos e outras medicações adequadas.

As hemorragias e deiscências de sutura tendem a se tornar cada vez mais raras, com os progressos da técnica, o adextramento do cirurgião e as lições de sua própria experiência. Finalmente, a uremia dificilmente será eliminada de uma estatística desta natureza, em vista da idade dos pacientes—geralmente bastante avançada, com comprometimento irredutivel dos rins, sem que a medicina disponha de recursos capazes de contorná-la eficientemente em grande número de casos.

Em 12,6% dos casos não conseguimos rever os pacientes depois de obtida a alta hospitalar. E' possivel que entre esses alguns tenham ultrapassado os 5 anos de sobrevida. Quando o operado ficou livre dos seus sintomas e nada mais sente, geralmente não atende ao pedido do cirurgião que compareça periódicamente à consulta para revisão do seu estado de saúde. Esquece, com esquecer-se do sofrimento, o médico que o livrou dele. Quando sobrevem qualquer moléstia, então corre ligeiro ao seu operador para vêr se os seus sintomes saõ decorrentes da operação, tendo em mente que "algo poderia ter sido mal feito." Há sempre uma desconfiança quanto à perícia do cirurgião. Assim, reafirmamos, é posivel que entre esses 12,6% de gastrectomizados por cancer alguns tenham sobrevivido até além dos 5 anos. Verificamos que são raros os que apresentaram recorrência do cancer depois dos dois anos da operação: 10 atingiram o terceiro ano, 5 o quarto; 3 morreram próximo dos 5 anos e 1 teve recorrência aos 8 anos da ressecção. E' justo indagar se nesses casos em que a moléstia voltou a longa distância não teria havido a eclosão de um novo cancer em terreno predisposto ou por interferência de qualquer fator etiopatogênico. O que nos cumpre salientar é que muito raramente temos observado a recorrência do tumor no coto gástrico ou na boca anastomótica: ela geralmente se manifesta em territórios ganglionares ou em outros orgãos, particularmente o fígado.

A nossa estatística apresenta uma sobrevida global de 25,1%. A esse número devemos acrescentar mais 1% relativo a 2 operados que faleceram por motivo alheio ao cancer: um aos 2½ anos, por peritonite consequente a rutura de hernia inguinal estrangulada do delgado: o outro aos 9½ anos, por ileoparalítico após intervenção para correção de eventração e revisão da cavidade abdominal. Assim, pois, mais de um quarto dos operados ficaram livres da sua doença. Deve-se ter em conta, porém, que muitos deles foram operados recentemente e ainda não atingiram os cinco anos de sobrevida. Vejamos os números, aí incluindo os 2 mortos por intercorrência:

Com menos de um ano	5 casos
Com 1 a 2 anos	7 casos
Com 2 a 3 anos	5 casos
Com 3 a 4 anos	5 casos
Com 4 a 5 anos	9 casos
Com mais de 5 anos	19 casos
	50 casos

Se deixarmos de parte, como é obvio, os doentes que faleceram no posoperatório em decorrência do ato cirúrgico e não da moléstia, bem como os pacientes sôbre os quais não tivemos notícias do seu estado de saúde depois de sairem do hospital—isto é: 24 mais 24 ou 48, teriamos que avaliar a sobrevida num total de 143 casos revistos conforme o quadro abaixo:

143 casos ressecados e revistos:

Mortos no primeiro ano	50	34,9%
Mortos no segundo ano	24	16,8%
Mortos no terceiro ano	10	7,0%
Mortos depois do terceiro ano	9	6,3%
Doentes com sobrevida	50	34,9%
	143	

Vejamos entre os doentes com sobrevida qual é a porcentagem observada conforme o tempo decorrido:

Com 0 a 2 anos	12	8,4%
Com 2 a 3 anos	5	3,5%
Com 3 a 4 anos	5	3,5%
Com 4 a 5 anos	9	6,3%
Com mais de 5 anos	19	13,2%

Como resultado prático, podemos afirmar que a ressecção gástrica nos dá uma sobrevida de mais de 5 anos em pelo menos—13,2% dos casos: de mais de 4 anos em pelo menos 19,5%: de mais de 3 anos em pelo menos 23% dos casos. E isso numa estatística global de casos mais ou menos avançados num ambiente onde o diagnóstico precoce é uma raridade.

Convém assinalar, para terminarmos estas considerações, que os casos de maior sobrevida correspondiam a doentes que tinham os seguintes tipos de tumor:

Em geral, o prognóstico é melhor nos tumores da linha dos sarcomas. Assim foi em nossa estatística, encarando-a em números relativos: pois se tinhamos 1 caso de sarcoma para 15 de carcinoma, a sobrevida nos dá a relação de 1 de sarcoma para apenas 2 de carcinoma, donde a probabilidade de sobrevida é de cerca de 7,5 vezes maior para os casos de sarcoma do que para os casos de carcinoma.

São essas as lições que se podem tirar da nossa estatística, lições essas sujeitas às restriçoes que se devem fazer a um número tão limitado de casos — apenas três centenas.

* * *

An automobile may break down for many reasons. A tyre may go flat, a wheel may come off, a bolt may drop from the steering or transmission, a break may appear in the ignition system, a fly may choke a jet, or a drop of water may block a petrol pipe. The machine stops, the cause of failure is discovered and corrected, and then it goes on again. The mechanism of an aeroplane may go wrong for similar reasons, but in this case the result is usually permanent and usually the same—a mass of crumpled aluminium. We do not, however, try to prove a common cause. The causes are as varied as those that stop an automobile, but a secondary factor, that of gravity, comes in to make what is a temporary breakdown in the first case, a permanent disaster in the second.

It is probable, then, that the causes of ulcer are as many and varied as the causes of skin spots and automobile breakdowns, but while lesions on the skin and mucous membranes are allowed to heal, those on a surface exposed to acid are digested away and become chronic ulcers, similar in each case whatever their first cause. The common sites of ulcer are not those where the primary lesion occurs most often, but those where the fixity of the part opposes healing and favours auto-digestion. But whether acid be the cause of ulcers or only the cause of their persistence, the surgical treatment of ulcer is bound up with a reduction in the acid level.

—*Ogilvie*

Editorials

The Pathologists: Morgagni, Rokitansky and Virchow

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COMPARISON has often been made of the achievements of the three celebrated pathologists Morgagni, Rokitansky and Virchow, and their respective influences on the development of pathology. Their inspiration is still apparent, and it is not difficult for students of medical history to recognize the foundation they built for the structure of modern teaching and practice.

To review the accomplishments of these giant figures with intelligent detail in the space available would be too much of a task. At best one can only select a few that seem to have borne special fruit, e.g., Virchow's cellular concept of pathology. For present purposes it may be more to the point to recall the character of the men, their place in their own society, the impression they made on their times and the methods of teaching they bequeathed to later generations. It should therefore not be inappropriate to concentrate, in the allotted period, on the manner in which the three masters passed along the fruits of their labors and won the support of their own contemporaries in advancing the work in which they were engaged. For in all truth no one of the three was a prophet without honor in his own country, nor can it be said that the light of any one of them was hidden under a bushel.

During the forthcoming months of 1959 and as long thereafter as possible, the editorial pages of the Journal of the International College of Surgeons *will be honored by presentations of rare and extraordinary historic value, the lectures presented at the International Surgeons' Hall of Fame on medical and surgical history from the earliest recorded achievements to those of our own times. We believe that* Journal *readers who were not able to attend the lectures will find them as exciting as did the audiences present at their delivery. The story of progress in the healing arts and the giants of medicine and surgery to whom we owe the amazing brilliance and scope of modern achievement is intrinsically thrilling and is a vital part of the education of every cultivated man and woman, inside or outside the profession. It is altogether fitting that it should appear in these pages, since the International College of Surgeons is first, last and always a teaching institution.*

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*Emeritus Professor of Pathology, Henry Phipps Institute, University of Pennsylvania.

In introducing each person it will be pertinent to discuss the state of pathologic science at the time he came upon the scene. It will also be proper, at the start, to indicate what is meant by pathology. For present purposes the term is essentially equivalent to morbid anatomy, including its major subdivision, pathologic histology.

Before Morgagni—Although the fact is commonly overlooked, a not inconsiderable knowledge of morbid anatomy had accumulated in the three hundred years preceding Morgagni's labors. All the great anatomists whose names are bywords in the history of their science left descriptions of morbid as well as normal anatomy. Many of these, if not themselves Italians, worked for years and made some of their most celebrated observations in Italy. The list includes Mondino de Luzzi (*circa* 1270-1326), sometimes called the pre-Vesalian founder of anatomy; Andreas Vesalius himself (1514-1564); William Harvey (1578-1657); Giacomo Berengario da Carpi (1470-1550); Matteo Realdo Colombo (1516-1559); Gabriello Fallopio (1523-1562); Bartolommeo Eustachi (1524-1574), and Marcello Malpighi (1628-1694). More or less buried in the voluminous records of these men, as well as in those of other distinguished physicians in France, Holland, and Germany, are hundreds of reports of dissections which they or colleagues known to them performed to clarify the cause of death. Two books should be mentioned as of special interest, the *De abditis morborum causis* (abbreviated title) of Antonio Benivieni (1443-1502) of Florence, and the *Sepulchretum Anatomicum* of Théophile Bonet (1620-1689) of Geneva. The former work is of interest because of the similarity of its title and purpose to that of Morgagni, and the latter because its lack of organization of a wealth of material stimulated Morgagni to the production of his own superior book. The observations compiled in these numerous records were so brief as to be of little value for generalization, and the most comprehensive compendium, Bonet's, was so poorly put together that it could not in any way serve as a teaching text.

In his own time Morgagni was not alone among his contemporaries in the advancement of pathologic science. His teacher Antonio Maria Valsalva (1666-1723) of Bologna and his Italian contemporaries Giovanni Maria Lancisi (1654-1720) and Bernardino Ramazzini (1633-1714) were deeply concerned with variations from the normal and made notable contributions in special fields. The time was ripe for a master who could extend the general field and codify the immense amount of existing material.

Morgagni.—Giovanni Battista Morgagni (1682-1771) of Forli, Bologna and Padua accomplished this great task. His major service to medicine was nothing less than establishing the anatomic concept of disease so firmly in the minds of physicians throughout the scientific world that the old vagaries on general systemic states of the body could never again serve as a cloak for ignorance. To be sure, the facile systematists of the day were not immediately downed. The "tonus" theory of Friedrich Hoffman (1660-1742) of Halle and the "animism" of Georg Stahl (1660-1734) of Ansbach continued to have a large school of adherents. The influence of Thomas Sydenham (1624-1689), who never took anatomic studies seriously, persisted. But the majority of scientific men of Morgagni's own time, many of whom were striving in the same direction, welcomed the *De sedibus et causis morborum* immediately as practical, objective and illuminating.

Perhaps the most significant feature was the prompt acceptance of the book as authoritative at a time when scientific communication was not furthered by book reviews and wide advertising as it is today. For the explanation of this we must go back to a consideration of Morgagni's position in the scientific world. He had graduated in medicine at Bologna, then at the peak of its reputation among Italian medical schools. He had been singled out by the Professor of Anatomy, Valsalva, as a student of exceptional promise. He became the latter's assistant and from time to time substituted for Valsalva in lecturing. An enormous number of students from all over Europe attended the University of Bologna, and there can be little doubt that much of Morgagni's later reputation stemmed from the contacts he made at the time. He himself organized a society among them, the *Academia Inquietorum*, or "Academy of the Restless," for the discussion of scientific and philosophic subjects. After a period at Bologna he spent some time at the Universities of Pisa and Padua and then began the practice of medicine in his home town of Forli. His major scientific interest remained in anatomy, and his well known *Adversaria Anatomica* (1706-1719), a collection of essays on anatomic subjects, based on his work at Bologna, was published during this early period. The impression made by the first selections of the latter led to his call in 1711 to a university position at Padua, where, shortly afterward, he was appointed Professor of Anatomy, taking his place in the long line of incumbents of the chair since Vesalius, which included Colombo, Fallopio, Fabricius of Aquapendente, Spigelius and Vesling.

The *De sedibus et causis morborum* was published in 1761, fifty years after Morgagni's arrival at Padua. In the meantime he had become the most distinguished member of the medical faculty and a highly respected figure throughout Europe. There can be no doubt that the immediate prestige of his book rested on this long period of personal growth. It is said that all the learned and great who came to Padua visited him. His correspondence was tremendous. His was a time when investigators communicated their observations by letter to colleagues near and far. As Sigerist has noted in his *Great Doctors*, such letters were passed from hand to hand, annotated and returned to the original writer, sometimes swollen to the size of a monograph. Thanks to these letters, we know much of the history and biography of learned men of the eighteenth century that would otherwise have been forgotten.

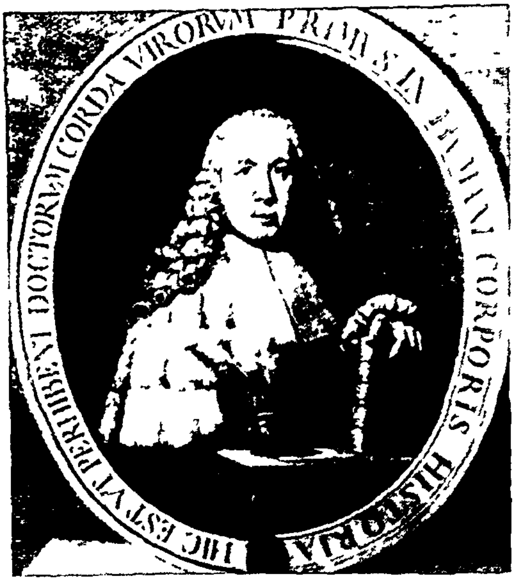
HIC EST VT PERHIBENT DOCTORVM CORDA VIRORVM PRIMVS QVI ... CORPORIS HISTORIA

Fig. 1.—Giovanni Battista Morgagni (1682-1771).

The *Index Nomimum et Rerum Notabilium* attached to the *De sedibus* carries the names of hundreds of predecessors and contemporaries. With many of the latter, such as Frederick Ruysch, Hermann Boerhaave and Albrecht von Haller, Morgagni was in personal correspondence. Haller called him "vir ingenii, memoriae, studii, incomparabilis." In recognition of his commanding position he was elected to the leading scientific academies of Europe, including the Royal Society of London in 1724, the Academy of Sciences in Paris in 1731, the Imperial Academy of St. Petersburg in 1735 and the Academy of Berlin

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Rokitansky.—In the middle of the nineteenth century, in one of those curious geographic shifts that seem to characterize leadership in research, the top position in many branches of medicine, including pathology, passed to Vienna. Under the inspiration of Carl Rokitansky (1804-1878) and Josef Skoda (1805-1881), a "new Vienna School" came into being, as a more vital successor to the "old Vienna School" which grew on the shoulders of Gerhard van Swieten (1700-1772), Anton de Haen (1704-1776) and Leopold Auenbrugger (1722-1809).

Carl Rokitansky became the world's master delineator of morbid anatomic changes. Even Virchow, whose sharp criticism demolished the theoretical generalizations so close to Rokitansky's heart, called Rokitansky the greatest descriptive pathologist of the time. The volume of pathologic material recorded by Rokitansky was tremendous. His most effective and one of his earliest services to the scientific discipline he had chosen was his insistence, as soon as his position was secure enough to warrant it, that the bodies of all persons who died in the General Hospital of Vienna be sent to the Pathological Institute of the hospital for postmortem study. The necropsies, a huge number of which were performed by Rokitansky himself, were carried out with a thoroughness never practiced before. He began by establishing a procedure of technic insuring the preservation of anatomic relations, which, in spite of innumerable modifications in detail introduced for individual purposes by hundreds of later pathologists, is still referred to as Rokitansky's method —"nach Rokitansky" in German-speaking lands.

Only a fraction of the results of study of this gigantic volume of necropsies was published in separate papers by Rokitansky himself, who wrote his first necropsy protocol in the hospital in 1827 and his thirty thousandth some thirty-eight years later. So many students were in attendance that much of the large accumulation of descriptive data became general knowledge without the formality of publication. Like Morgagni, Rokitansky attracted pupils from all Europe. Prior to his time medical students flocked to Paris; in Rokitansky's era they massed in steadily increasing number in Vienna. He had a genius for teaching and a gift for organization and generalization. If the latter carried him too far—if, as a successor, Anton Weichselbaum, put it, "in seeking explanation he reached into error"—the fact did not detract from the solid value of his objective descriptions or the orderliness of his arrangement of material. His outstanding publication, the *Handbuch der pathologischen Anatomie*, although built to some extent on the systems of Johann

Fig. 2.—Carl Rokitansky (1804-1878).

in 1754, all before, and some long before publication of the *De sedibus et causis morborum*. In the Paris academy he replaced Frederick Ruysch on the latter's death in 1731. Morgagni's position at home was no less influential. He was a recognized scholar, in art and literature as well as in science. He was closely acquainted with the secular rulers of the Republic of Venice, to which Padua adhered, and of the neighboring Italian states. He was on terms of personal intimacy with five popes, who sought his advice frequently on important educational questions. The distinguished Clement XIII often consulted Morgagni professionally at Padua before he became pontiff in Rome. Morgagni's relations with the Church were close. It is worthy of note that one of his sons became a Jesuit teacher and all eight of his daughters who grew to maturity entered religious orders.

Of his great book, which has so often been described, little more need be said. It was published when Morgagni was nearly eighty years old, but had been built up, as we have seen, over many preceding years. Not a few of the observations dated back to the days when Morgagni worked in immediate association with Valsalva. The contents embrace the whole field of pathology. One of the most valuable features of the book is its Index, which, while not fully adequate from the point of view of modern listing of names and subjects, was so far ahead of any similar index published up to that time as to call forth the commendation of contemporaries and successors for years to come.

The *De sedibus et causis morborum* appeared in several editions and translations. Morgagni lived ten years after its publication, active in University affairs, extraordinarily vigorous and alert for an octogenarian, and fully able to recognize the influence he had exerted on medical science. Years later, with the perspective of more than a century, Rudolph Virchow epitomized Morgagni's crystallization of the association of symptoms and organs, in one of the great German pathologist's best known essays, "Morgagni und der Anatomische Gedanke" (1894).

From Morgagni to Rokitansky.—After Morgagni, leadership in pathologic anatomy passed from Italy to a rising school of vigorous investigators in France. With the French revolution came a new evolution in science. A Frenchman, Jean Cruveilhier, spoke only the truth when he said that France had succeeded Italy as the classic land of pathologic anatomy. French contemporaries of Morgagni, particularly Joseph Lieutaud (1703-1780) and Antoine Portal (1742-1832), had contributed compilations of necropsies something like the *Sepulchretum* of Théophile Bonet. Their work, like the latter's, was inferior to that of Morgagni, but it was succeeded by the brilliant labors of a French school that advanced the science notably.

The new French school included Marie-Francois-Xavier Bichat (1771-1802), Gaspard-Laurent Bayle (1774-1816), Rene-Théophile-Hyacinthe Laennec (1781-1826), Pierre-Charles-Alexandre Louis (1787-1872), Gabriel Andral (1797-1876) and Jean Cruveilhier (1791-1873). These men added greatly to factual information, and equally to the teaching of large numbers of students who later became distinguished investigators themselves.

At the same time an independent school of pathologic anatomy was developing in England, with William Hunter (1718-1783), John Hunter (1728-1793) and Matthew Baillie (1761-1823) furnishing much of the impetus, and the clinicians Richard Bright (1789-1858) and Thomas Addison (1793-1860) tying pathology closely to clinical medicine. The professional pathologists Robert Carswell (1793-1857), James Hope (1801-1841) and Thomas Hodgkin (1798-1866) elevated pathology to a front-rank discipline in the medical curriculum.

fairs as president of the Medical Society of Vienna, and other scientific societies; as a member of the Imperial Academy of Sciences; as dean of the medical faculty (1849), and as rector of the University (1850). His views, put forth modestly, in some contrast to the growing authoritarianism of the Vienna school, were widely influential. In his farewell address in 1875 he said, "Actuated by one of the most urgent needs of the day, I devoted myself to pathological anatomy as a branch of investigation likely to prove fruitful to clinical medicine, and was able, on German soil, to give it so much importance that it became possible to describe it as the true foundation of pathological physiology and as the fundamental method of natural research in the domain of medicine." It remains only to add that his influence on medical research was as profound as on medical education.

From Rokitansky to Virchow.—At the time when Rokitansky and the New Vienna School were developing pathology as a major academic discipline and establishing it as the most rigid of controls on diagnosis, in Germany, not so far away, medicine in general and pathology in particular were still under the spell of the old time systematists who scouted the value of pathologic anatomy. On the other hand, fundamental studies were under way that were to bring about a major revolution in these sciences. The stimulus for the movement came from the mind of one of the master medical teachers of the nineteenth century, Johannes Müller (1801-1858) of Bonn and Berlin. Müller, as the preceptor of Theodor Schwann (1810-1882), Jacob Henle (1809-1885) and Rudolph Virchow (1821-1902), was the source from which modern histology and cellular pathology arose.

Schwann had drawn the cellular concept of animal life from the botanist Matthias Jacob Schleiden (1804-1881). Unfortunately each of them believed in the development of a formative fluid or "blastema" in the tissues, from which the all-important cells arose by a process of condensation. Rokitansky had taken over this concept in his short-lived doctrine of crases and stases or dyscrasias. Virchow took the right turn, however, where Schwann and Rokitansky had taken the wrong one, and built his enduring pathology on the concept that every cell arose from a preceding cell.

Virchow.—Rudolph Virchow (1821-1902) began his studies in pathology as an assistant to Robert Froriep (1804-1861), who served as prosector at the Charité Hospital in Berlin from 1833 to 1846. He succeeded Froriep in this position in 1846. Microscopic pathology was developing as a science. Froriep had given Virchow some training in the field. Virchow's teacher, Johannes Müller, had described the finer structure and form af malignant tumors in 1838, in a work that established the cellular character of new growths. Schwann, Müller's pupil, was at this early period pointing out the universality of cells in animal life. Jacob Henle (1809-1885), also a pupil of Müller, in his *Handbook of Rational Pathology*, the first parts of which were published when Virchow succeeded Froriep, had commenced the histologic classification of tissues that was to become one of the foundation stones of pathology. Julius Vogel (1814-1880) of Göttingen had published a histologic atlas in 1843, and Hermann Lebert (1813-1878), an itinerant native of Breslau, who spent some of his best years in Paris, followed it shortly by another atlas largely concerned with microscopic pathology.

Pathology had thus taken a new direction, and was to be guided henceforth by rigid standards not available to the morbid anatomists of previous years. Henceforth pathologic diagnosis had to pass a new test, the control exercised by histology. Virchow himself said: "Learn to see microscopically."

Martin Lobstein (1777-1835) and Adolph Wilhelm Otto (1786-1845), was the first true textbook of general and special pathology. The *De sedibus et causis morborum* of Morgagni was an extensive and illuminating series of case reports grouped by anatomic systems. Matthew Baillie's *Morbid Anatomy of Some of the Most Important Parts of the Human Body* was a special or "organ" pathology, fortunately supplemented soon afterward by Baillie's own and other excellent British pictorial atlases of pathology. Cruveilhier's unsurpassed lithographic atlas had been completed shortly before the first volume of Rokitansky's handbook appeared, but his *Anatomie pathologique generale* was yet to come.

Rokitansky's handbook, therefore, was a new creation. The texts of succeeding years, in all languages, were consciously or unconsciously modeled upon it. It is unfortunate that its conspicuous defect, the strange doctrine of crases and stases of the blood that Virchow derided, has drawn so much attention from historians of later years. To be sure Rokitansky "asked for it," to use a colloquial expression; he had devoted untold hours and his best judgment to this singular concept. He outlined it in tedious detail in Volume I of the *Handbuch,* and reverted to it over and again in explanation of organic lesions. Nevertheless, indefensible as it was, it should not overshadow the almost limitless objective detail in the gross description of pathologic processes and diseased organs written with precision in terms of altered morphologic structure and changes in position, color, consistency and continuity.

As is well known, after Virchow's sharp attack on the concept as a "monstrous anachronism," Rokitansky discarded it entirely. This he did quietly and apparently without rancor. The theory did not appear in the second and later editions of the book. Virchow himself, years later, wrote that the book had been in its time the best of all manuals on pathologic anatomy and had served as the true foundation of practical medicine. A sensitive biographer (Menne) has said that Rokitansky's "was probably the greatest single balancing force in medical science of the nineteenth century."

Rokitansky had begun the study of medicine as a poor boy. He had gone from his home town of Koenigsgratz in Bohemia to the university city of Prague in a peasant's wagon. Dissatisfied with the teaching there, but with already formed scientific interests of his own, he moved to Vienna. His bent for pathology led to his appointment at the time of his graduation as assistant to Johannes Wagner (1800-1832), prosector of the Allgemeines Krankenhaus. He succeeded Wagner on the latter's death, but with a low salary and uncertain tenure. From then on he carved out his own career. Although influenced in his formative years by the writings of Lobstein, Andral and Friedrich Meckel (1781-1833), he never had a teacher and master in the sense that Morgagni did in Valsalva and Virchow in Johannes Müller. Wagner and the Allgemeines Krankenhaus merely created his opportunity. Rokitansky, with the stimulus of a generation of eager and youthful colleagues in the "new Vienna school," taught pathology to himself at the necropsy table. His power of observation has not been surpassed, and perhaps was equaled only by his capacity for passing the information along.

His service to the hospital and the University of Vienna lasted almost fifty years. On his seventieth birthday, in 1874, a celebration was held in Vienna in his honor, at which a degree and a gold medal were conferred upon him by the Rector and Senate of the University, with a certificate of honor, extolling his contributions to science and education with unrestrained eulogy. In the preceding years he had taken an active part in administrative affairs as president of the Medical Society of Vienna, and other scientific societies; as a member of the Imperial Academy of Sciences; as dean of the medical faculty (1849), and as rector of the University (1850). His views, put forth modestly, in some contrast to the growing authoritarianism of the Vienna school, were widely influential. In his farewell address in 1875 he said, "Actuated by one of the most urgent needs of the day, I devoted myself to pathological anatomy as a branch of investigation likely to prove fruitful to clinical medicine, and was able, on German soil, to give it so much importance that it became possible to describe it as the true foundation of pathological physiology and as the fundamental method of natural research in the domain of medicine." It remains only to add that his influence on medical research was as profound as on medical education.

From Rokitansky to Virchow.—At the time when Rokitansky and the New Vienna School were developing pathology as a major academic discipline and establishing it as the most rigid of controls on diagnosis, in Germany, not so far away, medicine in general and pathology in particular were still under the spell of the old time systematists who scouted the value of pathologic anatomy. On the other hand, fundamental studies were under way that were to bring about a major revolution in these sciences. The stimulus for the movement came from the mind of one of the master medical teachers of the nineteenth century, Johannes Müller (1801-1858) of Bonn and Berlin. Müller, as the preceptor of Theodor Schwann (1810-1882), Jacob Henle (1809-1885) and Rudolph Virchow (1821-1902), was the source from which modern histology and cellular pathology arose.

Schwann had drawn the cellular concept of animal life from the botanist Matthias Jacob Schleiden (1804-1881). Unfortunately each of them believed in the development of a formative fluid or "blastema" in the tissues, from which the all-important cells arose by a process of condensation. Rokitansky had taken over this concept in his short-lived doctrine of crases and stases or dyscrasias. Virchow took the right turn, however, where Schwann and Rokitansky had taken the wrong one, and built his enduring pathology on the concept that every cell arose from a preceding cell.

Virchow.—Rudolph Virchow (1821-1902) began his studies in pathology as an assistant to Robert Froriep (1804-1861), who served as prosector at the Charité Hospital in Berlin from 1833 to 1846. He succeeded Froriep in this position in 1846. Microscopic pathology was developing as a science. Froriep had given Virchow some training in the field. Virchow's teacher, Johannes Müller, had described the finer structure and form af malignant tumors in 1838, in a work that established the cellular character of new growths. Schwann, Müller's pupil, was at this early period pointing out the universality of cells in animal life. Jacob Henle (1809-1885), also a pupil of Müller, in his *Handbook of Rational Pathology*, the first parts of which were published when Virchow succeeded Froriep, had commenced the histologic classification of tissues that was to become one of the foundation stones of pathology. Julius Vogel (1814-1880) of Göttingen had published a histologic atlas in 1843, and Hermann Lebert (1813-1878), an itinerant native of Breslau, who spent some of his best years in Paris, followed it shortly by another atlas largely concerned with microscopic pathology.

Pathology had thus taken a new direction, and was to be guided henceforth by rigid standards not available to the morbid anatomists of previous years. Henceforth pathologic diagnosis had to pass a new test, the control exercised by histology. Virchow himself said: "Learn to see microscopically."

In the fifteen years between Virchow's graduation in Berlin, where Müller was his preceptor, and the publication of *Die Cellular-Pathologie* (1858), he had made his classic studies on thrombosis and embolism, a labor of ten years' duration (1846-1856); demonstrated the nature of pyemia; discovered leukemia, and laid substantial groundwork for all later studies on inflammation. Of equal importance, in cooperation with the young pathologist Benno Reinhardt (1820-1852), he had founded, in 1847, the lastingly influential *Archiv für pathologische Anatomie und Physiologie und für klinische Medizin*, which in all the years since Reinhardt's early death has been known as "Virchow's Archiv."

In 1849 he left Berlin for the politically more sympathetic environment of Würzburg, where he took the first full professorship in pathology in Germany. In Würzburg, where he could work quietly after the hectic days of the abortive revolution of 1848, he made the basic studies leading to the *Cellular Pathology*, which was actually published two years after his return to Berlin in 1856 as professor of pathologic anatomy, a position created for him through the influence of Johannes Müller. In the quiet environment of the Bavarian city he rounded out the pioneer studies of Schleiden, Schwann and Müller, taking the last and most important step in establishing the dominance of the cellular concept, viz., recognition of the continuity of cellular life. His aphorism "Omnis cellula e cellula" (see Chapter II, second edition of *Die Cellular-Pathologie*) became the keynote of the new pathology. The concept of a cell state and its morbid alterations in the presence of inflammation, neoplasia and tissue degeneration, was henceforth the centralizing tenet in understanding deviations from the normal.

Pathology had again shifted its geographic center. In the pupils of Müller, and soon those of Virchow himself, Germany now assumed leadership in the science. Virchow's position had been established even before his return to Berlin. He had been recognized as an outstanding teacher in the Würzburg period. From then on, in one way or another, he influenced all oncoming pathologists. An extraordinary number of the recognized masters in the latter part of the century were pupils he had personally inspired; the list included Julius Cohnheim (1839-1884), Edwin Klebs (1834-1913); Friedrich Daniel von Recklinghausen (1833-1910); Georg Eduard Rindfleisch (1836-1908); Emil Ponfick (1844-1913); Virchow's successor in Berlin, Johannes Orth (1847-1923), and his first assistant in Berlin, Felix Hoppe-Seyler (1825-1895), who became almost as great a figure in biologic chemistry as Virchow was in pathology.

Virchow himself concluded his intensely active career as a pathologist in the early eighteen seventies, but his position remained the commanding one in the science to the end of his life in 1902. He published his necropsy technic in 1874; to this day, in Europe, the two standard technics are those of Rokitansky and Virchow. After 1870 his main scientific interest was in anthropology. His nation-wide anthropologic study of school children with reference to racial characteristics is one of his most widely cited investigations in this field. In the sister field of archaeology he collaborated with Heinrich Schliemann (1822-1890), the excavator of the ruins of Troy. Virchow's dominant position in pathology made him an accepted leader in any field to which he devoted his attention.

For other vital aspects of his character one may turn with profit to a consideration of his extraordinary concern with social problems. He was only 27 years old, but a fully matured social thinker, when the revolution of 1848 broke out. The preceding two years had built up in him a militant sympathy for the underprivileged that characterized the rest of his life. Youth that he was, he had been assigned by the Prussian government to the important task of investigating a typhus epidemic that broke out in the winter of 1847-1848 in upper Silesia, a Prussian province made up of part of the old, dismembered Poland. In later life Virchow recalled this trip as decisive in the development of his social convictions. In his report he gave due attention to the medical and epidemiologic factors concerned, but the major emphasis of the document was on the miserable environment of the afflicted people, who suffered from hunger, poverty, ignorance and lack of any concession of governmental responsibility for their plight. His report was an uncompromising indictment of the Prussian government for its delinquency. His return coincided with the outbreak of the revolution. Without hesitation he espoused the cause of the liberals. On March 18 he was at the barricades. He rejoiced in the transient victory of the revolutionists. In the midst of the struggle he cooperated, with indefatigable fervor, in publication of the semipolitical journal *Die medizinische Reform,* in which views in sympathy with the current revolutionary movement were expressed. With the final victory of the reactionary powers his academic position became untenable. His dismissal, as we have seen, gave him the opportunity, at the most fertile period of his life, to pursue scientific investigations elsewhere without political interruption.

He returned to Berlin, not only in favor again but with a social strength in the attack on social problems that no longer could be denied. For more than forty years his word commanded the utmost respect in this field, in the highest governmental as well as academic circles. Politically he was a fearless progressive, and early in the life of the German Progressive Party he was elected to the Prussian diet. From then on he was a statesman whose courage quailed before no established authority, secular or scientific. He vigorously opposed even the prime minister Otto von Bismarck in the latter's notorious "blood and iron" policy.

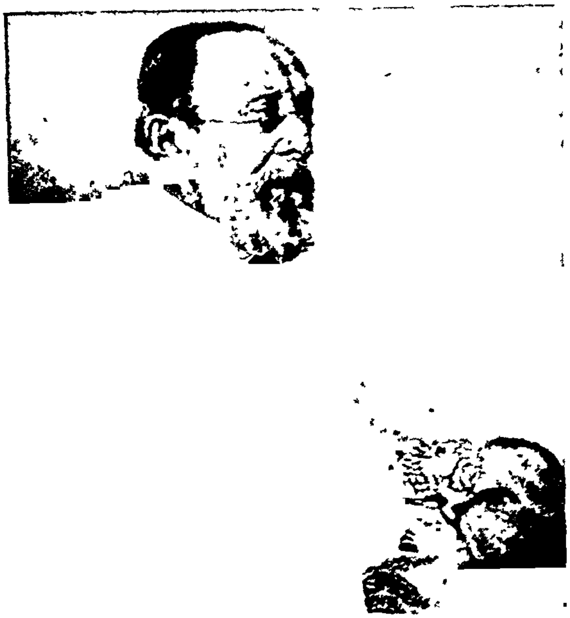

Fig. 3.—Rudolf Virchow (1821-1902).

It is only fair to conclude this brief sketch with some reference to his defense of convictions which, as it turned out, were wrong. He was never half-hearted in his pronouncements. He opposed the view that the metastases of carcinoma were the result of transfer of actual cells, and believed in the infecting power of fluids that could "reproduce a mass of the same nature as the original," a surprising concept in the mind of the discoverer of embolism and the creator of cellular pathology. As late as the 1880s he remained skeptical of the significance of bacteriology. He defended his pluralistic theory of the cause of tuberculosis even after Robert Koch's discovery of the tubercle bacillus, stating in 1885 that "phthisis has remained what it was." Even more surprising, perhaps, was his polemic with his own Würzburg pupil, Ernst Haeckel (1834-1919), with regard to the origin of man, in which he defended the "right" rather than the "left," contrary to his usual stand on freedom of thought. To be sure, much that has been described as opposition on Virchow's part was in truth nothing more than reservation in the face of what to him seemed unproved hypotheses.

With the perspective of a century one may fairly assess Virchow's achievements in comparison with those of Morgagni and Rokitansky. All were pioneers. Each was an outstanding teacher. But Virchow, more than either of the others, introduced lasting concepts into the science of pathology. The most significant of these was the concept of cellular pathology.

The concept of life as dominantly cellular has indeed been challenged by extraordinary recent demonstrations of the role of nucleoprotein and nucleic acids in modifying the germ plasm, but as of this date (1958), the anniversary of publication of the *Cellular Pathology,* Virchow's position still holds. As Ackerknecht has said in his comprehensive biography of Virchow, "In spite of chemistry's successes going into and beyond the cell, in spite of our increased knowledge of nucleus and protoplasm, the cell is still an ultimate biological unit. And cells still arise only out of cells."

No one of the three was weak in the face of challenge. Morgagni's whole career was one of objective realism and analysis, and his thinking was the antithesis of the cloudy concepts of the adept philosophers who simplified the ailments of the body in vague comprehensive "systems." Rokitansky overstepped the boundaries of rational deduction in his humoral pathology, which was scoffed out of existence by Virchow; but, discarding the misstep, he went on to greater heights, and few paid more eloquent tribute to his true worth than did Virchow himself. Virchow met challenges all his life, and, right or wrong, defended his position without compromise. No defense was ever necessary for the *Cellular Pathology,* which he brought out at a time when the scientific world was ripe for this new and unifying concept.

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We all encounter cases, where symptoms and signs suggest a condition demanding operation, but where the diagnosis is not absolutely clear. In these circumstances it is often the wiser course to 'wait and see,' provided always that our waiting is active and not passive, and that we are prepared to see, not only the first signs pointing to a clearer understanding, but also the first indication that waiting cannot be safely prolonged.

—*Ogilvie*

The Best for the Most

SIDNEY VERNON, F.A.C.S., F.I.C.S.
WILLIMANTIC, CONNECTICUT

INTERNATIONAL political tension and the rapid development of new military weapons lead to public comment on the possible enormous civilian casualties in the event of a major war. With estimates of the killed running very high, a large number of injured also would be expected. The care of the injured would be the responsibility of survivors. Since the duty of organizing medical care for injured persons nearby would fall on any surviving physician, the basic principles for the treatment of mass casualties may properly become general medical information.

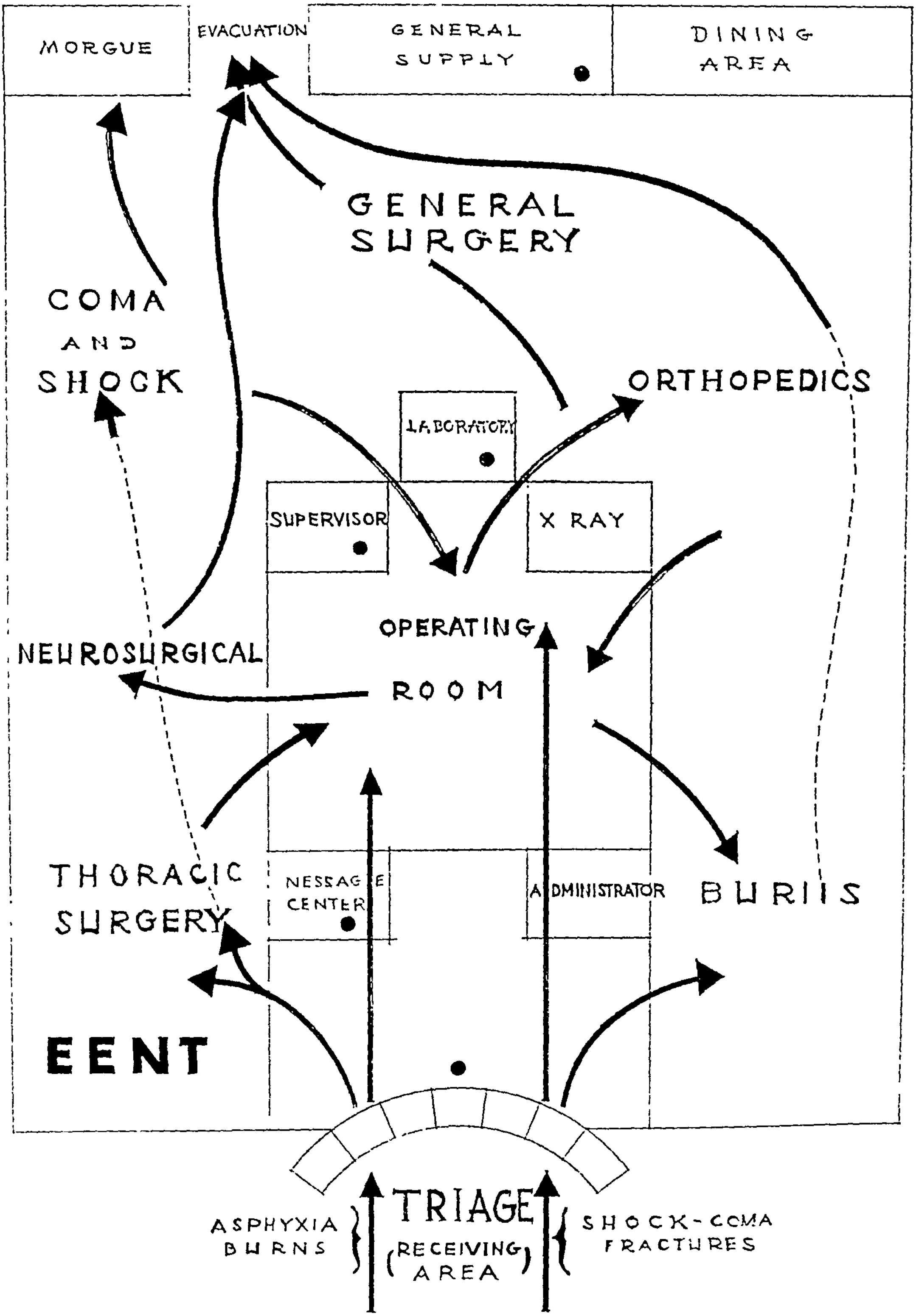
The effective organization of medical care of the injured may prevent panic and allay general depression that could induce unfavorable readiness to submit. Organized medical care could be the hard core that develops a will to resist the enemy.

The basic requirement of care in a mass disaster is to establish and maintain a rapid flow of casualties through a hospital if the best possible conservation of life and limb is to be achieved. The hospital may be an established institution or an emergency facility set up in a public building. Equipment for 200-bed emergency hospitals is packed in crates and distributed through the country.

After casualties have been collected, the important process is sorting, or triage. The patient must be classified as to his outstanding problem, according to whether treatment of asphyxia, hemorrhage, coma or burns is his greatest need. Asphyxia as associated with thoracic injuries or laryngeal edema may require immediate care, and early tracheostomy may become standard. Hemorrhage may require early surgical treatment as well as supportive care. Shock may require stabilization of the patient before any definitive treatment is considered. The treatment of large numbers of burns may require a simplified method of effective care.

To prevent disastrous bottlenecks of casualty flow, early triage may classify the wounds into minor ones which may receive minimum care, apparently hopeless ones, serious ones for which definitive treatment is delayed and moderate ones, with which medical treatment of the patient produces the maximum prevention of loss of life.

Burns. — Present-day care and treatment of the severely burned patient requires mobilization of many of the hospital facilities. An extensive burn is a surface injury; the injured area is quite accessible. The technic of generalized hypothermia is a standardized surgical skill; likewise, the simple use of cutaneous hypothermia for burns can be applied effectively by a limited number of medical personnel, to save many patients with extensive burns. Application of cold to the burn to inhibit the local and general metabolic response to the trauma can produce comfort, prevent serum leakage and hemolysis and stop the growth in size of the third-degree burned areas. Local application of cold compresses is a simplified method of treating large numbers of burned patients in a mass disaster. It has proved itself in desperate need; it is worthy of consideration as a primary treatment. It is not new, and modern research can give authority to this simple method.


MORGUE
EVACUATION
GENERAL SUPPLY
DINING AREA
GENERAL SURGERY
COMA AND SHOCK
ORTHOPEDICS
LABORATORY
SUPERVISOR
X RAY
NEUROSURGICAL
OPERATING ROOM
THORACIC SURGERY
MESSAGE CENTER
ADMINISTRATOR
BURNS
EENT
TRIAGE (RECEIVING AREA)
ASPHYXIA BURNS
SHOCK-COMA FRACTURES

Casualty Flow.—The first stage of collection, during which most medical attendants are litter bearers, is followed by triage. From the receiving center the patients go to the operating room or to wards, depending on their needs and the general situation; or, from this area, unconscious patients should go to the coma ward, where head injury is differentiated from surgical shock. It is recognized that in mild shock a patient not in pain will stabilize himself if left undisturbed. Patients with splinted bones with no evidence of thoracic, abdominal or cranial injury go direct to the orthopedic area of the operating room. Those with soft tissue wounds and abdominal wounds go to the department of general surgery. Each patient's record is attached to his leg, and vital signs are recorded for diagnostic purposes.

The Time Element.—The arrangement to do "the best for the most" is to exploit specialized skills, so that "problem patients" may go to designated areas where the medical skill and suitable equipment are provided. There must be flexibility to meet varying needs, and there must be responsiveness of the organization to the pressure of numerous admissions. Hospitals already existing must be organized to accept the pressure of a large number of admissions in a short time. Their chief use, however, would be in the care of serious and urgent conditions, with an arrangement for rapid evacuation.

Emergency hospitals set up in schools and armories would require time for conversion and setup, and would not be fully geared for the worst cases at the outset.

Communication, Administration and Security.—For intercommunication within the hospital, the "press and talk" open speaker intercom system with five master stations may be used. Secondary "slaves" may be attached off any of the masters. A central administrative office communicates with the outside by field telephone or short wave radio and is responsible for coordinating services within the hospital and with outside units of civil defense and medical care. Administration gathers casualty lists, supplies public information and is responsible for the morgue and its evacuation. A plan for the use of a crated 200-bed hospital is described.

Security needs are increased by the necessity of preventing panic, and provision for police or guard participation in control of the hospital area should be part of the plan. An efficient working medical team also prevents panic.

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General plan. Intercom stations are indicated by black dots. Receiving area for sorting of wounds is controlled by experienced surgeon who decides what aspect of the patient's injury requires prior treatment. Patient may be taken to operating room or wards. Operating room may be an open area, for all operations, permitting flexibility. Space arrangement is for minimum litter-bearer effort. Evacuation through rear is for maintaining smooth casualty flow. Principles illustrated here may be applied in converting school or armory into emergency hospital.

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New Books

BOOKS RECEIVED

The following books have been received by the Editor; they will be reviewed critically as space and facilities permit. Omission of more extended review, however is not to be taken as criticism of the merit of the book.

Basic Surgery. Edited by Leslie Oliver. Springfield, Ill.: Charles C Thomas, Publisher, 1959. Pp. 1,359, with 680 illustrations, including 4 color plates. *Reviewed in this issue.*

Orthopaedics: Principles and Their Application. By Samuel L. Turek. Philadelphia: The J. B. Lippincott Company, 1959. Pp. 906, with 600 illustrations. *Reviewed in this issue.*

The Surgeon's Tale: The Store of Modern Surgery. By Robert G. Richardson, New York: Charles Scribner's Sons, 1959. Pp. 278, with 45 illustrations.

History of American Medicine (MD International Symposia). Edited by Felix Marti-Ibanez. New York: MD Publications, 1959. Pp. 181.

Spinal Cord Compression. By I. M. Tarlov. Springfield, Ill.: Charles C Thomas, Publisher, 1957. Pp. 147, with 41 illustrations.

Le Diagnostic du Cancer d'Estomac a la Periode Utile (Diagnosis of Carcinoma of the Stomach at the Time Most Favorable for Treatment). By Rene A. Gutmann. Paris: G. Doin et Cie, 1956. Pp. 257.

Operative Surgery. Edited by Charles Rob and Rodney Smith. London: Butterworth & Co., Ltd.; Philadelphia, F. A. Davis Co., 1956. Vols. 1 and 2 of 8 (plus index). Profusely illustrated.

Pathology and Surgery of the Veins of the Lower Limbs. By Harold Dodd and Frank Cockett. *Baltimore: The Williams & Wilkins* Company, 1957. Pp. 462, illustrated.

Functional Bracing of the Upper Extremities. By Miles H. Anderson. Springfield, Ill.: Charles C Thomas, Publisher, 1958. Pp. 463. Illustrated.

The Clinical Management of Varicose Veins. By David Woolfolk Barrow. New York: Paul B. Hoeber, 1957. Pp. 167, with 70 illustrations.

Les traumatismes du thorax: thérapeutique pratique, prévention des séquelles, expertise (Traumatism of the Chest: Practical Treatment; Prevention of Sequelae; Survey). By Jean-Charles Sournia. Pp. 354, with 101 illustrations. *Reviewed in this issue.*

A Manual on Cardiac Resuscitation. By Robert M. Hosler. Springfield, Ill.: Charles C Thomas, 1958. 2d ed. Pp. 208. Illustrated. *Reviewed in this issue.*

Principles and Practice in the Management of Surgical Patients. By A. Venugopal Mudaliar. Madras: G. S. Press and C. O. Murthy, 1958. 82 illustrations, 4 in color. *Reviewed in this issue.*

Fracture Surgery: A Textbook of Common Fractures. By Henry Milch and Robert Austin Milch. New York: Paul B. Hoeber, Inc., 1958. Pp. 461, with 671 illustrations. *Reviewed in this issue.*

Traité de Technique Chirurgicale (Treatise on Surgical Technique): Abdomen, Vol. 7. By J. Quénu, J. Loygue et C. Dubost. Paris: Masson & Cie, 1959. Pp. 770, with 526 illustrations. *Reviewed in this issue.*

Orthopaedics: Principles and Their Application. By Samuel L. Turek. Philadelphia: The J. B. Lippincott Company, 1959. Pp. 906, with 600 illustrations.

This book, whose 600 illustrations include 53 beautifully reproduced color plates, can be used effectively as a textbook for medical students, for the training of residents in Orthopedic Surgery and as a book of reference for the experienced surgeon.

Shortly after Dr. Samuel L. Turek completed his training in Orthopedic Surgery he became a member of the teaching staff of Northwestern University Medical School. Through the years he has been a stimulating teacher and instructor. Several years ago he announced that he intended to undertake the monumental task of preparing an orthopedic text and reference book. To that task he devoted almost all of his time and energies, apart from the care of his own orthopedic patients. This book is notable because it presents data in the basic sciences—anatomy, embryology, physiology, histology and pathology—and correlates the information about these various basic subjects with the clinical practice of orthopedic surgery.

This book has been carefully planned and meticulously prepared. The text is concise but still complete. It is safe to predict that it will be used in the teaching of Orthopedic Surgery in many medical schools and as a book of reference for both teachers and clinicians.

Edward L. Compere, M.D.

Les traumatismes du thorax: thérapeutique pratique, prévention des séquelles, expertise (Traumatism of the Chest: Practical Treatment; Prevention of Sequelae; Survey). By Jean-Charles Sournia. Pp. 354, with 101 illustrations.

Professor Sournia's object in writing this book on traumatism of the thorax is to acquaint physicians and surgeons with the rôle they can play in early treatment that will save many lives. In spite of the great scientific progress in thoracic surgery during the past ten years, little has been written to instruct the attending physician as to its management, and this book provides a practical guide. The preface is written by Professor P. Santy.

This work is divided into five parts. The first contains a review of thoracic anatomy. The physiologic disorders brought about by trauma and anoxia due to respiratory and cardiac insufficiency are clearly described, without unnecessary detail. Methods of treatment are presented, including surveillance with roentgen rays, management of shock, drainage of the pleura, thoracotomy, cardiac reanimation, etc. Considerable space is devoted to the technic of respiratory reeducation, which is explained in simple terms.

Part Two considers closed trauma of the thorax. The pathologic syndrome associated with trauma of the thoracic cage and its contents is presented. The author points out that severe injury to the pleura and lungs may take place even though the thorax remains intact. Fracture of the ribs, hemothorax, pneumothorax and emphysema are depicted by clear roentgenograms. The author discusses the clinical syndrome of grave lesions of the deep-seated viscera of the thorax (lungs, bronchi, heart, esophagus and thoracic duct) resulting from severe crushing, compressing trauma, burns and explosions. The description of thoracic lesions caused by explosions is of particular interest.

Part Three is devoted to thermal and chemical trauma of the thorax due to inhalation of noxious gases in industry and during war. Severe burns and freezing of the lungs are discussed. The immediate and late treatment of chemical burns of the esophagus is presented in detail. The incidence of death due to shock, perforation, pulmonary complications and hepatonephritis is high, and a sequela, consisting of stricture of the esophagus, occurs in three-fourths of the patients.

Part Four takes up open trauma of the thorax. In 40 per cent of cases these do not involve the pleura. The etiologic and anatomic pathologic backgrounds, clinical study and treatment of pleuropulmonary and thoracoabdominal wounds, as well as those of the heart, pericardium, mediastinum (including large vessels, thoracic duct and foreign bodies), trachea, bronchi and esophagus are presented. An excellent résumé of judicious treatment may be found on page 201, which lists indications for early and delayed thoracotomy, pleurotomy, etc.

Part Five considers late sequelae of contusions of the thorax and fracture of the ribs. Complications arising from occupational injuries to the thorax involved the ribs, vertebrae, sternum, muscles, upper extremities, lungs and pleura are shown in tables prepared by Dr. Berlioz of the National Federation of Social Security of Paris. Pulmonary sequelae include suppuration secondary to foreign bodies. The relation of trauma to tuberculosis and carcinoma of the lung is discussed. Traumatic cardiac complications consist of parietal aneurysm and mitral insufficiency due to rupture of one of the cusps of the mitral valve. Indemnification of cardiopathic conditions is discussed. The management of stenosis of the trachea, bronchus and esophagus and the treatment of bronchial fistula and diaphragmatic hernia are well presented.

Professor Sournia has written a complete treatise on traumatism of the chest. Considering the paucity of books on injury of the thorax, it should be welcomed, particularly in this era of frequent occupational injuries, automobile accidents and falls. He outlines the early care necessary to save a patient's life, as well as the reestablishment of cardiac and respiratory equilibrium. He further describes subsequent treatment, two or three weeks later, aimed at correcting the effects of injury, viz., removal of menacing foreign bodies, repair of a fractured bronchus, reconstruction of the diaphragm, etc. The book contains a complete bibliography, clear roentgenograms, schematic drawings and tables that facilitate comprehension of the text. The book also contains 9 famous plates depicting the violent deaths, by thoracic trauma, of historical personages, such as the death of Epaminondas by a javelin thrust on the battlefield, the death of Henri IV by an assassin's stab wound through the left lung and the heart, the death of Desaix by penetration of the heart and lungs by a bullet during the battle of Morengo, and the death of the matador Pepe Illo, who was gored in the chest by a bull.

This excellent book will prove most informative to the physician who first sees the patient with a thoracic injury, as well as to the highly skilled surgeon.

CHARLES PIERRE MATHÉ, M.D.

A Manual on Cardiac Resuscitation. By Robert M. Hosler. Springfield, Ill.: Charles C Thomas, 1958. 2d ed. Pp. 208. Illustrated.

The first edition of this text appeared in 1954 and enjoyed wide circulation, in view of the new acceptance of the practicability of halting cardiac arrest. But, says the author in his preface to this second edition, at the time of the original publication it was his opinion that the principles set forth should apply only to those patients who die in or near the operating room. With the advances in technic during the succeeding four years, he points out, "Slowly the domain of cardiac resuscitation is no longer associated with cardiac surgery, but rightfuly has become a useful tool of all surgeons as well as the medical and dental professions in general."

This conviction demanded a revamping of the text to present the procedures in such a way that they would be applicable in various situations. A special chapter on danger signals was indicated. This has been supplied by Dr. R. J. Whitacre, Director of the Department of Anesthesiology, Huron Road Hospital, Cleveland, Ohio. Another new chapter, "Oxygen, the Fuel of Life," is contributed by Dr. Robert A. Hingson, professor of anesthesia at Western Reserve University.

The step-by-step procedures in the management of resuscitation are so simply and clearly presented, both in the text and the illustrations, that they can be mastered quickly. Dr. Hosler's argument is that these procedures should be mastered by all medical and dental personnel, in advance of any possible emergency. He is supported by Dr. Claude S. Beck, professor of cardiovascular surgery at Western Reserve University, who, in the introduction to the volume, says: "The time should be past when we surgeons turn these emergencies over to someone else to take care of (like the fire company). We should take care of them ourselves."

The volume is tremendously important, and should be read and memorized by everyone who is likely to become involved in the emergency of cardiac arrest.

—MAX THOREK, M.D.

Principles and Practice in the Management of Surgical Patients. By A. Venugopal Mudaliar. Madras: G. S. Press and C. O. Murthy, 1958. 82 illustrations, 4 in color.

This volume was published as a textbook for the use of interns, house surgeons, postgraduates and junior practitioners of surgery. The first 9 chapters elucidate and elaborate general principles. The remaining 31 chapters deal with visceral surgery, infections, burns, laboratory procedures and radiology. The latter includes roentgen investigation, i.e., barium meal, enema, cholecystographic study, etc., and radiation therapy. The appendix covers chemotherapeutic drugs, antibiotics, surgical treatment of the diabetic patient, hormone therapy for carcinoma and radioactive isotopes, and the concluding appendix is a table of physiologic normal levels of the various components of blood, urine and cerebrospinal fluid.

This well-written book represents the personal observations, contacts, deductions and conclusions of the author in his own experiences over a period of fifteen years, plus his work with a large, well-knit group of surgeons operating as a unit. The advances in medicine and surgery are so rapid that it is difficult to keep up to date on new therapeutic measures and surgical technics. This, however, the author points out in the various chapters actually indicating the fields of impending advance. His chapter on fluid administration and electrolyte balance is so well outlined, compact and concise that it is as much up to date as this morning. The surgical treatment of special viscera, i.e., the stomach, the large bowel, the spleen, etc., is covered in a systematic fashion, so that the entire subject is thoroughly explored and exposed. This book is highly recommended to surgical interns, surgical residents and postgraduates in surgery as well as to surgeons in general.

JEROME J. MOSES, M.D.

Fracture Surgery: A Textbook of Common Fractures. By Henry Milch and Robert Austin Milch. New York: Paul B. Hoeber, Inc., 1958. Pp. 461, with 671 illustrations.

This book, which has 23 chapters, offers some interesting suggestions as to the emergency care of an injured patient with fractures. The authors then discuss the various complications that may arise in the attempt to get the fracture fragments into proper alignment. They discuss the healing of fractures and the method of immobilization employed.

There is an interesting chapter on anesthesia by Herbert D. Dubovsky, M.D. Under the coverage of treatment for compound fractures are some suggestions concerning the care of severed tendons and injured blood vessels.

The remainder of the book deals with the axial skeletal system and discusses fractures thereof and their treatment.

Section 3 covers fractures of the upper extremity, including the pectoral girdle, and Section 4 describes fractures in the lower extremities and their complications.

The illustrations are of the best. The authors have an attractive style of description, which makes the reading of the book highly interesting.

—H. E. TURNER, M.D.

Basic Surgery. Edited by Leslie Oliver. Springfield, Ill.: Charles C Thomas, publisher, 1959. Pp. 1359, with 680 illustrations (including 4 color plates).

First published in London by H. K. Lewis & Co., Ltd., in 1958, this thorough textbook was compiled by a team of specialists in many fields, including J. G. Bonnin, D. L. B. Farley, Geoffrey Flavell, R. S. Murley, Basil H. Page, J. E. Piercy, Valentine A. J. Swain, and the editor, Leslie Oliver. Associate contributors are J. Chalmers Ballantyne, A. A. G. Lewis, H. Clive Sims, Lt. Col. P. Ross Wheatley, Winifred F. Young, all of England, and Dr. Arnold Jackson, head of the Jackson Clinic at Madison, Wisconsin. Adviser in pathology is P. M. Peters of London.

The text is just what its title implies—basic. It was intended for use by undergraduate students to provide them with fundamental information from which to go on into specialization. Each phase of general surgery is meticulously presented, including pediatric surgery. Special attention is given to the treatment of burns. All subjects are investigated thoroughly, from the beginner's approach. The language is clear and concise, and the illustrations readily understandable. The text is well indexed for easy use. It is hoped that the volume will find favor particularly with the medical schools in the United States.

—M.T.

Traité de Technique Chirurgicale (Treatise on Surgical Technique): Abdomen, Vol. 7. By J. Quénu, J. Loygue et C. Dubost. Paris: Masson & Cie, 1959. Pp. 770, with 526 illustrations.

This seventh volume on surgical technic is devoted to intervention in the abdomen. Tremendous progress has been made in surgery since the publication of the first edition. Indications and technics have been modified, certain operations made feasible and all have been improved so as to assure better results.

The book is divided into ten parts, the first of which deals with the liver and biliary tract. Operative intervention on the liver includes functional studies, methods of approach, etc. Hepatopexy, hepatostomy and hepaticoenterostomy, packing and suture, epiploplasty for trauma, removal of foreign bodies, and treatments of abscess, cyst and solid tumor (including hepatectomy) are described. Operations on the biliary tract include anatomic considerations, with emphasis on anomalies, as well as comments on preoperative cholangiographic and radiomanometric studies. Cholecystostomy, choledochotomy, intervention for biliary fistulae, stricture and cancer of the common duct and bilidigestive anastomosis are discussed. Extensive exeresis: lobar hepatectomy and duodenopancreatectomy, formerly considered quite hazardous, are now successfully carried out. The employment of roentgen rays and the manometer during operation acts as an effective guide.

The second part presents operations on the pancreas. This chapter deals with anatomic and functional studies, routes of surgical approach and exploration of this deeply hidden organ. Treatment of traumatic lesions, pancreatectomy, cancer, cysts, calculi, pancreatitis and cure of pancreatic fistulae by anastomosis with the stomach or jejunum, etc., are described.

Part 3 is devoted to splenectomy (which the author considers a formidable operation) and other interventions on the spleen. Among the thirteen indications are trauma, tumors, cysts, splenomegaly, Banti's disease, malaria, etc. The abdominal, anterior and posterior thoraco-abdominal and thoracic routes are discussed. The special technic for removal of the enormous, adherent and ruptured spleen is meticulously described. Other operations are also presented. Aneurysm of the splenic artery usually requires splenectomy.

Part 4 is devoted to intervention on the great epiploon. Anatomic and physiologic considerations are presented. Omentopexy, as a proposed treatment for cirrhosis, is discussed. Omentectomy, epiploplasty and omentotomy are described.

Part 5 deals with operations on the mesentery and mesecolon. These are for tuberculous adenopathy, solid tumors and cysts, and include resection of the involved portion of the colon and reestablishment of its continuity by end-to-end anastomosis.

Part six is devoted to operation on the main arteries and nerves of the abdomen. Clamping of the aorta during operation is likely to be followed by severe changes in arterial tension, and grave cerebral, cardiac or renal complications may ensue. Preliminary cardiovascular study, as well as determination of renal function, is emphasized. The technic of aortographic study (Reynoldo de Santos) is presented. Methods of clamping, repairing and replacing a portion of diseased aorta by vascular grafts and synthetic material are described. The routes of approach (abdominothoracic and retroperitoneal), the technic for repair of tears, embolectomy at the site of bifurcation of the aorta, ligation, wrapping and resection of aneurysm of the abdominal aorta are discussed in detail. Leriche's operation — terminal aortectomy accompanied by lumbar sympathectomy—is described. Operations similar to those performed on the aorta are also described for iliac arteries, mostly arteriectomy and embolectomy.

Intervention on the vena cava includes ligation. Technics for phlebography and "cavographie" are described. A chapter is devoted to operation on the portal vein and its branches, including various technics for portocaval anastomosis in cases of portal hypertension. Splenorenal venous anastomosis is discussed. Another chapter deals with sympathectomy in which the lumbar sympathetic chain is removed via the abdominal route. Lumbar sympathectomy, accompanied by splanchnicectomy and adrenalectomy, is described. The authors discuss technic for dorsolumbar sympathectomy (rather than clinical indications) for the hypertensive patient.

Part 7 is devoted to laparotomy for trauma of the abdomen. Treatment has been improved by knowledge gained in World War II. Technic for exploring the traumatized abdomen, including repair of contusions, tears and ruptures of the viscera, is described in detail. The treatment of stab and bullet wounds, pneumatic rupture of the stomach and foreign bodies in the digestive tract are all described. Judicious use of roentgen rays, anesthesia, antibiotics, reanimation, intestinal aspiration and maintenance of electrolyte balance, rather than changes in surgical technic, are responsible for the great progress registered in the treatment of wounds and contusions of the abdomen.

Part 8 deals with laparotomy for intestinal occlusion. Anatomic and physiologic considerations are presented, and the basic intrinsic and extrinsic lesions causing obstruction defined. Preoperative examination and treatment include roentgen therapy, stomach lavage, continuous gastroduodenal aspiration, biologic examination, etc. The object of the operation is to visualize and relieve, if possible, the cause of obstruction. External deviation (enterostomy) or internal deviation (enteroanastomosis) may be necessary. Intestinal invagination, volvulus, occlusion by foreign bodies, adhesions and constricting bands, internal hernias and intestinal infarct are considered.

Part 9 is devoted to laparotomy for localized or generalized acute peritonitis. Diffuse peritonitis may develop from localized involvement. The different types are described and general rules for intervention presented. The object of the operation is to eradicate the cause of peritonitis and to evacuate fluid accumulated in the abdomen. Peritonitis secondary to appendicitis, perforation of gastric or duodenal ulcer, rupture of the intestines, infectious processes of the female genital organs, diseases of the biliary tract, typhoid fever, etc., are individually considered. The type of operation indicated in these cases is described.

Part 10 deals with incisions of the abdomen for abscess. General considerations and indications for operation are described. A voluminous walled-off accumulation of pus in the abdomen requires immediate incision and drainage. Hypogastric, pelvic, iliac, epigastric and mesecolic abscesses are considered, and treatment is discussed in detail.

This second edition of the seventh volume of the *Treatise on Surgical Technique of the Abdomen* has been brought up to date. Professors Quénu, Loygue and Dubost have completely revised the first edition, deleted irrelevant text and added considerable material. This was made possible by recent great progress in surgical technic. They have rejuvenated the entire work and adhere strictly to conciseness of presentation. Excellent illustrations depict incisions made in the abdomen and every step of the numerous operations minutely described. A complete bibliography and an index of six pages are included. The volume is a veritable work of art on abdominal surgery and a source of invaluable information.

CHARLES PIERRE MATHÉ, M.D.

Abstracts from Current Literature

Treatment of Paralytic Ileus with Cholinesterase Inhibitors in Intravenous Drip. Breine, U., Hedenberg, I., and Liljedahl, S. O., Acta Chirurg. Scandinav. 114:173, (March) 1958.

Paralytic conditions of the intestines usually occur postoperatively in connection with biliary or ureteral colic, trauma and peritonitis. Decompression is an essential part in the treatment of intestinal obstruction. The value of the Miller-Abbott tube is proved, but its introduction into the intestine frequently presents great difficulty. In the authors' opinion it is possible to improve the motility of paralytic intestines with cholinesterase inhibitors administered by intravenous drip. These agents promote the action of acetylcholine, since they are reversibly bound to the enzyme cholinesterase that normally inactivates acetylcholine *in loco*. The intestinal function starts sometimes after a few hours, and, as a rule, within twenty-four hours, and appears to be marked in both the large and small bowel. The authors used prostigmine (Roche) and neostigmine (Leo) in doses of 2-4 mgs. per liter of fluid (dextrose, saline, etc.) at a drip rate of 30 to 35 drops per minute for twenty-four to forty-eight hours or even longer. This treatment was used for two years in about 50 cases. No cardiovascular complications or other side effects were noted. In some instances intestinal function started after two or three hours, in others after about twenty-four hours. In only 1 case was the result unsatisfactory. A roentgen film of a paralytic small intestine dissected at operation showed its mobility restored when intravenous prostigmine drip was administered, the intestinal movements being of the same nature as those demonstrated by Rödén in abdominal window experiments. The intravenous administration of cholinesterase inhibitors is a purely therapeutic measure in the presence of paralytic ileus and a valuable diagnostic aid, in combination with a contrast meal, for the differentiation of paralytic ileus and partial mechanical obstruction. A contraindication is the presence of intestinal strangulation. In cases of partial mechanical obstruction, administration of prostigmine may be permissible.

The paper contains 3 case reports and 9 roentgenograms.

ERNEST G. ABRAHAM, M.D.

Perirenal Fascitis. Hutch, J. A., and others, J. Urol. 81:76-95, 1959

The authors review 23 cases of perirenal fascitis and add 2 cases of their own. They discuss the symptoms of this disease, pointing out that anuria is the cardinal symptom and that oliguria should be watched for. Other symptoms are pain low in the back or the abdomen, ureteral obstructive symptoms, obstruction of the abdominal aorta or the vena cava, symptoms involving the presacral plexus such as impotence or loss of libido and symptoms of intestinal obstruction. In their opinion there is no relation between perirenal fascitis and gastrointestinal disease. They note that urinary symptoms are few.

The physical condition of the patients ranges from excellent to critical, depending on the degree of uremia present. Tenderness over the kidneys was a common observation, as was abdominal tenderness below the umbilicus. The picture is that of chronic rather than acute disease. A palpable mass over the sacral promontory is the only pathognomonic sign. The roentgen picture of the urinary tract is consistent with ureteral obstruction. In passing a catheter to the kidney, one observer noted a tightness of the ureter without true obstruction. Another radiologic sign suggestive of this disease is sudden loss of function in a kidney known previously to have been normal.

The pathologic picture is that of fibrosis, with varying degrees of inflammatory reaction. The treatment consists of temporary nephrostomy, with freeing of the ureters from the fibrous plaque. In some of the cases reviewed, the ureter had to be resected and end-to-end anastomosis performed.

SHEPARD JEROME, M.D.

Wound Closure by Use of a Plastic Substance. Elias, H. F., Nebraska State M. J. 43: 344 (Aug.) 1958.

The advent of a transparent plastic aerosol dressing has made possible the successful closure of surgical wounds without skin sutures. In pediatric surgery, particularly, such a dressing appears to be ideal in minimizing suture trauma and possible wound infection.

In a series of 100 wound closures, the following technic was employed: 1. Wound closure is accomplished by a subcuticular silk suture and careful wound approximation is achieved. 2. The dressing is then sprayed on the closed wound (application usually requires less than thirty seconds). 3. One-inch or 2-inch gauze mesh is applied over the wound. 4. The dressing then is reapplied over the gauze to incorporate it into the plastic film which forms a moisture and vapor permeable, effective, waterproof bacterial barrier. 5. The subcuticular suture is next cut and withdrawn. The wound is then held together securely by plastic and gauze only. Wound approximation in this series was excellent.

The advantages of the technic in pediatric surgery are numerous. The product employed (Aeroplast® Dressing) provides a nontoxic, nonsensitizing, waterproof, flexible wound covering. It is also insoluble in urine or feces and is easy to apply and remove. The painful removal of the customary stitches is obviated.

This technic is generally applicable to any wound closures that are relatively short and superficial and follow lines of skin cleavage.

JOHN R. MOTE, M.D.

The Choice Between Death From Postmaturity or Prolapsed Cord and Life From Induction of Labour. Theobald, G. W., Lancet 1:59, 1959.

In 1756 London obstetricians agreed on the moral rectitude of induction of premature labor in multigravidae with minor pelvic contraction and the therapeutic advantages that might follow it. This has remained largely an English procedure.

With the conviction that the risks associated with induction of labor are related more to the stage of pregnancy than to the reason for the operation, the patients have been divided into those whose labor was induced (a) before the thirty-eighth week, (b) between the thirty-ninth and fortieth weeks, and (c) after the end of the fortieth week of pregnancy. Adequate prenatal care should make it unnecessary, except in structurally defective women, to induce labor before the thirty-eighth week, and most of the patients whose cases are reported here were emergency admissions.

The fact that the number of inductions of labor has increased from 306 in 1952 to 666 in 1957, making a total of 2,631 for the six years, indicates satisfaction with the procedure.

There was only 1 maternal death among the 2,631 patients whose labor was induced. This death was due to air embolism and was in no way related to the induction of labor.

There is general agreement that surgical induction of labor is now safe for the mother. The procedure, however, must be regarded as a serious surgical operation, to be performed by a competent surgeon in the best possible surroundings, and it requires the development of a hospital technic and ritual. An almost perfect procedure must not be spoiled by casual and careless performance.

EDMUND LISSACK, M.D.

A propos des techniques de derivation porto-cave: l'anastomose entre veine renale et veine porte (Techniques of Portocaval Shunts: Anastomosis Between the Renal and the Portal Vein). Esposito, G., Infranzi, A., and Portolano, F., Lyon chir. 55:14, 1959.

The authors describe a new technic of portocaval shunt by which the right renal vein is anastomosed to the portal vein either directly or through a graft. The advantage of the latter technic is preservation of the kidney. These experiments were performed on 10 dogs, and a successful patent anastomosis was obtained in 4 cases. The failures were attributed to the uncertainty of the technic as well as to thrombosis, which occurred more frequently when heparinization was not used than when this precaution was taken.

SAFUH M. A. ATTAR, M.D.

Lymphatic Spread from Prostatic Carcinoma. Flocks, R. H., Culp, D., and Porto, R., J. Urol. 81:194, 1959.

The authors studied 411 patients with carcinoma either limited to the prostate or locally inoperable, both groups without distant metastasis. Exploration was done through a transverse suprapubic incision. Metastatic involvement, when present, was most frequently in the hypogastric and obturator nodes, the iliac nodes ranked next, and the involvement of these three groups was more common than was involvement of the aortic groups. Of the 382 patients with locally inoperable carcinoma, 144, or 38 per cent, showed involvement of regional nodes. The point to be emphasized is the low incidence of involvement of the ab*dominal nodes with the high incidence of in*volvement of those in the pelvis.

In the 29 cases of locally operable prostatic carcinoma, 7 per cent showed involvement of the pelvic nodes. The incidence of pelvic node involvement, therefore, rises rapidly with invasion of the seminal vesicles and the fascia.

The conclusion is that, in an operable patient, removal of the pelvic nodes should add to the salvage percentage.

SHEPARD JEROME, M.D.

Wertheim Hysterectomy in the Treatment of Endometrial Carcinoma. Parsons, L., and Cesare, F., Surg., Gynec. and Obst. 108:582, 1959.

The end results in this study compare favorably with those reported in the current literature and justify further evaluation of the radical surgical approach to the treatment of endometrial carcinoma. The high incidence of postoperative complications, however, imposes heavy obligations on those who treat and care for these patients. It is to be hoped that future experience and observation will add further knowledge of the metastatic spread of endometrial carcinoma, improve the selection of patients and reduce morbidity, at which time the Wertheim hysterectomy with pelvic lymph node dissection may prove worthy of more routine use.

EDMUND LISSACK, M.D.

Carcinoma primitivo del coledoco (Primary Carcinoma of the Common Bile Duct). Aldo Cappiello, A., Minerva chir. 13:665, 1958.

The author discusses a case of primary carcinoma of the common bile duct, noting the present diagnostic possibilities as well as the treatment of this disease. Longmire's intrahepatic cholangeojejunostomy for relief of biliary obstruction is mentioned for use when the extrahepatic ducts have been destroyed. There is some confusion as to the site of origin of the disease, since the gallbladder, the hepatic ducts, the bile ducts and the duodenal mucosa may all be implicated.

The difficulty of diagnosing this tumor early enough to effect a cure is stressed.

THOMAS A. MCLENNAN, M.D.

Hand-Schüller-Christian Disease of Portio and Vagina. Winter, G. F., Zntrlbl. f. Gynäk. 80:11, 1958.

A 26-year-old milligravida had noted for the past ten months a reddish yellow vaginal discharge, menstrual periods every thirty-four to fifty-four days, severe headaches and insatiable thirst. Twelve liters of fluid were consumed per day. Roentgenograms showed a shadow of the size of a small cherry in the right maxillary sinus. The anterior and posterior vaginal walls as well as the cervix were covered with multiple circumscribed, infiltrated and eroded bean-sized papulae. Histologically, a biopsy specimen revealed infiltration with polymorphonuclear reticulocytes and histiocytes breaking here and there into pseudovascular cavities. Nuclear clumping, occasional mitoses and small necrotic areas were observed, besides groups of lymphocytes, some plasma cells and tissue eosinophilia. Xanthoma cells were absent. This microscopic picture could not be clearly evaluated.

The level of 17-ketosteroids (21.3 mg. per 24 hour urine) and the sedimentation rate were slightly increased. No blood chemical data are mentioned in the article except for a blood sugar level of 80 mg. per hundred cubic centimeters.

The differential diagnosis had included inflammatory granuloma, malignant tumor and lymphogranulomatosis. Because of the presence of a granulomatous bone defect and of diabetes insipidus, however, the diagnosis of lipoid granuloma, as occurring in Hand-Schüller-Christian disease, appeared more likely. According to the author, no similar localization in the vagina and cervix had been previously described in the literature at the time of his report.

ERNEST G. ABRAHAM, M.D.

Regional Lymph Node Involvement in Small Carcinoma of the Cervix. Friedell, G. H., and Graham. J. B., Surg. Gynec. & Obst. 108:513, 1959.

In this study the authors found that metastases to the lymph nodes are uncommon from cervical carcinoma 1 cm. or less in diameter. That such metastases may occur, however, is illustrated by the report of an additional case, in which metastatic carcinoma was observed in an iliac lymph node despite the fact that the primary lesion did not appear to exceed 1 cm. in diameter.

In this series 40 surgical cases were studied. It was found that, of the surgically treated Stage I carcinomas of the exocervix clinically appearing to be less than 1 cm. in diameter, none had metastasized to the regional lymph nodes. In 32 cases there was no evidence of recurrence five to fifteen years after the operation, and in 2 cases four years after the operation. In 6 patients who died one to seven years after surgical treatment there were no known recurrences, and carcinoma of the cervix was not the cause of death in any of these cases.

EDMUND LISSACK, M.D.

La Malattia Cistica del Polmone (Cystic Disease of the Lung). Di Gennaro, A., La Chir. Toracica 11:406, 1958.

The author discusses the differential points between true and false cysts, after which he covers the etiologic factors, the anatomopathologic picture and the clinical course of cystic disease of the lung. He reports 3 personal cases of bronchogenic cysts and 3 of polycystic lung. As far as the surgical problem is concerned, it is his opinion that surgical intervention is indicated solely in the presence of complications, such as infection, hemorrhage and gross distention or perforation.

THOMAS A. MCLENNAN, M.D.

Fistule oesophago-tracheale apres treaumatisme ferme du thorax (Tracheoesophageal Fistula Due to Closed Thoracic Injury). Santy, P., De Beaujeu, M. J., Termet, H., and Mouillaux, Lyon chir. 55:5, 1959.

Tracheoesophageal fistula is a rare complication of closed traumatic injury of the chest. Eleven cases have been reported in the literature, with 7 survivals after surgical treatment. The fistula occurs usually a short distance above the carina and presents a clear-cut margin, measuring about 1 to 3 cm. in length and 0.50 to 1 cm. in width. The predisposing factors are reviewed; the authors, however, believe in the mechanical transmission of intraabdominal and intrathoracic pressure secondary to the trauma as the direct cause of these fistulas.

Clinically the fistulas manifest themselves relatively early, if not masked by other major traumatic injuries. There is dysphagia, especially to liquids provoking simultaneously a paroxysm of coughing. Another helpful sign is the occurrence of cervical emphysema with ecchymosis.

The diagnosis is confirmed by lipiodol swallow as well as endoscopic study. The treatment consists in the control of mediastinal and pulmonary infections by antibiotics, maintenance of the patient's nutritional status through either a nasogastric tube or a gastrostomy, and the earliest surgical intervention possible for division of the fistula and closure of both the esophageal and the tracheal orifice.

SAFUH M. A. ATTAR, M.D.

IMPORTANT ANNOUNCEMENT

Contributors of scientific articles for publication in The Journal of the International College of Surgeons from Europe, the Near East and the Middle East should send their articles to:

European Office of the
International College of Surgeons
6-8 Rue de la Confederation
Geneva, Switzerland

A special committee has been appointed to evaluate the papers submitted for publication. The Journal publishes summaries in English, French, German, Spanish, Italian and Portuguese. Summaries of articles should be included in as many of these languages as possible.

AVIS IMPORTANT

Les auteurs d'articles scientifiques destinés à être publiés dans le Journal du Collège international de chirurgiens sont priés d'adresser leurs articles à l'adresse suivante pour l'Europe, le Proche et le Moyen Orient.

Bureau Européen du
Collège international de chirurgiens
6-8 rue de la Confédération
Genéve (Suisse)

Un comité a été nommé pour l'examen des articles à paraître. Les auteurs sont priés de joindre à leur travail de brefs résumés en français, anglais, allemand, espagnol, italien et portugais si possible.

The following pages comprise

Section II

the BULLETIN

of the

Journal

of the

International College of Surgeons

Schedule of Meetings

1960

Twelfth Biennial International Congress

INTERNATIONAL COLLEGE OF SURGEONS

Under the Auspices of
His Excellency

the President of the Republic of Italy

PROF. DR. PIETRO VALDONI
CONGRESS PRESIDENT

May 15-18 Rome, Italy

Roads to Rome Tours

Combine

Attendance at the Congress With
One of Four
International College of Surgeons European Tours

I: A 21-day tour—New York, Rome and the Congress, Munich, Lucerne, Paris, Amsterdam, London and return to New York.

II: A 35-day tour—New York, Paris, Nice, Rome and the Congress, Naples, Sorrento, Capri, Florence, Venice, Lucerne, Heidelberg, Rhine cruise, Amsterdam, London and return to New York.

III: A 37-day tour—New York, Lisbon, Madrid, French Riviera, Rome and the Congress, Florence, Venice, Innsbruck, Salzburg, Munich, Heidelberg, Frankfurt, Rhine cruise, Paris, London and return to New York.

IV: A 40-day tour: New York, Rome and the Congress, Vienna, Moscow, Leningrad, Helsinki, Stockholm, Oslo, Copenhagen, Glasgow, Dublin and return to New York.

TECHNICAL EXHIBITS

THE TWELFTH INTERNATIONAL CONGRESS

and

TWENTY-FOURTH UNITED STATES AND CANADIAN CONGRESSES

of the

INTERNATIONAL COLLEGE OF SURGEONS

PALMER HOUSE — CHICAGO

SEPTEMBER 13-17, 1959

ABBOTT LABORATORIES
North Chicago, Ill. **Exhibit Nos. 20-21**
Exhibit will feature the Abbott Laboratories Antibiotic Triad—three products which together provide control of all coccal infections: Erythrocin® Stearate, Compocillin®-VK, and Spontin®. Also shown will be Abbott's unique new "metered release dose form" products, Tral Gradumets®, and specialties.

AEROPLAST CORPORATION
Dayton, Ohio **Exhibit No. 83**
Two new products, Vi-Drape Surgical Film and Vi-Hesive Surgical Adherent, will be shown. The products represent a new aseptic technic that provides a completely sterile operative field, and eliminates skin towels and clamps. Surgical incision is made thru the sterile Vi-Drape Film (adhered to the skin with sterile Vi-Hesive Adherent), and the patient's skin is completely isolated from operative site.

AMERICAN CYANAMID COMPANY
Surgical Products Division
Danbury, Conn. **Exhibit No. 57**
Manufacturers of Davis & Geck Sutures in the new Surgilope SP Sterile Strip Pack with Atraumatic Needles; Vim hypodermic needles and syringes. Other specialties include Surgaire, sterile deodorant spray ointment; Topasil, silicone skin protectant; Curon, elastic foam bandage, and disposable needles and syringes.

AMERICAN STERILIZER COMPANY
Erie, Pa. **Exhibit Nos. 13-14**
American Sterilizer Company will present a new major surgical table offering a flexible radiographic top with fit end or side floating of the cassette, a divided foot section allowing easier lower extremity posturing, and unique accessories such as a TUR glide tray, detachable leg holders, and a table mounted instrument stand—all this to be demonstrated in conjunction with the model DV-22 major surgical light and a heated solution stand.

ARNAR-STONE LABORATORIES, INC.
Mount Prospect, Ill. **Exhibit No. 93**
Featuring Americaine Topical Anesthesia in ointment, liquid, and aerosol form for long-lasting, effective relief of hemorrhoids, post-hemorrhoidectomies, burns, abrasions, pruritus, etc. Also featured will be Silicote Skin Protective Ointment and Liquid Spray (aerosol), containing 30% silicone in a petrolatum base, for protection of the skin around colostomies, ileostomies, etc. Representatives will be happy to discuss several recently published articles regarding the use of these preparations in surgical procedures.

A•S•R PRODUCTS CORPORATION
New York, N. Y. **Exhibit No. 76**
A•S•R Products Corporation is exhibiting SteriSharp, the stainless steel sterile scalpel blade that may be autoclaved without dulling edge damage. Also being exhibited is A•S•R surgical soap and double edge hospital blades.

ASTRA PHARMACEUTICAL PRODUCTS, INC.
Worcester, Mass. **Exhibit No. 62**
Descriptive literature pertaining to preparations of Xylocaine Hydrochloride (Astra) for injection, Xylocaine Ointment (Astra), Xylocaine Jelly (Astra), Xylocaine Viscous (Astra), and Xylocaine Hydrochloride 4% (Astra) for topical application, as well as Astrafer I.V. will be available at the Astra booth No. 62 presided over by G. Vinton Hallock, M.D.

AUDIO-DIGEST FOUNDATION
Glendale, Calif. **Exhibit No. 54**
Audio-Digest Foundation, a subsidiary of the California Medical Association, gives the busy physician an effortless tour through the best of current medical literature each week. This medical tape-recorded "newscast," compiled and reviewed by a professional Board of Editors, may be heard in the physician's automobile, home, or office. The Foundation also offers medical lectures by nationally recognized authorities.

AUSTENAL, INC.
New York, N. Y. **Exhibit No. 30**
The Austenal exhibit will feature many new Vitallium surgical appliances and instruments. Of current interest will be a display of Vitallium hip prostheses and instruments for hip arthroplasty. If you have not already received one, be sure to register for your copy of the new Vitallium reference catalog—100 pages of internal fixation information and bibliography.

BARD-PARKER COMPANY, INC.
Rutherford, N. J. **Exhibit No. 40**
Bard-Parker, a Division of Becton, Dickinson and Company, invites you to visit Booth No. 40 to see sterile Rib-Back Blades; B-P Blades in rack-pack and conventional packages; handles, containers, germicide, chlorophenyl, halimide, C.F. pipettes, forceps and the Reese Dermatome. Also new, prepackaged Wilson surgeons' disposable gloves and other Wilson items.

BAXTER LABORATORIES
Morton Grove, Ill. Exhibit Nos. 97-98
Baxter Laboratories, Inc., cordially invites you to view its latest developments in parenteral fluid therapy. The Travenol Division will feature its two newest products. Urevert, a medical decompressant for intracranial emergencies, is a new approach to the reduction of intracranial pressure. Clinically established Urevert is well tolerated and frequently life-saving. Cozyme, for the physiologic correction and prevention of intestinal atony and abdominal distention, safely and effectively restores normal peristaltic activity.

BENTLEY & SIMON, INC.
New York, N. Y. Exhibit No. 105

BIRTCHER CORPORATION
Los Angeles, Calif. Exhibit Nos. 51-52
Complete Birtcher mobile cardiac monitoring and resuscitation center, including the new Birtcher 300 dual-trace electrocardiograph, cardioscope, electronic switch and EEG pre-amplifier, together with defibrillator and heart-pacer. Also the Birtcher Model 2000 personally certified electrosurgical unit, and the latest models of Birtcher ultrasonic and diathermy units.

CAMERON SURGICAL SPECIALTY COMPANY
Chicago, Ill. Exhibit No. 24
Cameron, pioneers in the development of electrically lighted diagnostic and electro-surgical devices, feature standard diagnostic instruments required for practice. They also show the Cameron "60," an entirely new concept in electro-surgical devices; UL approved low voltage current controls; Paraxial Lempert Headlites; Becker ano-procto-sigmoidoscope sets; and many more items of interest to the surgeon and general practitioner.

COCA-COLA COMPANY
Atlanta, Ga. Exhibit Nos. 99-100
Ice-cold Coca-Cola served through the courtesy and cooperation of the Coca-Cola Bottling Co., of Chicago, Inc., and The Coca-Cola Company.

CORECO RESEARCH CORPORATION
New York, N. Y. Exhibit No. 50
The Coret camera embodies the principle of electronic flash and constant automatic control of such factors as distance, aperture, field, and exposure. Now, for the first time, Coreco offers a completely automatic professional clinical camera purposely designed to achieve the ultimate in surface, intraoral, and intratubular photography. Because of the simplicity of operation, even an inexperienced doctor or nurse can achieve consistently perfect color transparencies.

F. A. DAVIS COMPANY
Philadelphia, Pa. Exhibit No. 64
Rob and Smith: "Operative Surgery," 9 volumes complete; "General Surgery," 4 volumes; "Orthopedic Surgery," 2 volumes; "Obstetrics and Gynecology," "Genito-Urinary Surgery," and "Eye, Ear, Nose and Throat." May: "Reconstructive and Reparative Surgery." Falk: "Urologic Injuries." Glasser: "Peripheral Vascular Surgery." Ficarra: "Emergency Surgery." Hale: "Anesthesiology."

DAVOL RUBBER COMPANY
Providence, R. I. Exhibit Nos. 41-42
The new Davol heart pump with a complete line of accessories, including the arterial tapered catheter, will be shown. Technical personnel will be on hand in the Davol booth to discuss the new pump and to show specialized surgical tubes in rubber and plastic.

DePUY MANUFACTURING COMPANY
Warsaw, Ind. Exhibit No. 25
We are displaying many new products of interest to the general as well as the orthopedic surgeon. Be sure to see the new Turner coagulator, the improved wire cutter, and the detachable head Moore type prosthesis. DePuy intermittent traction apparatus, the sensibly priced approach to both intermittent cervical and pelvic traction, will be demonstrated for your inspection. You are welcome to visit with us.

DESITIN CHEMICAL COMPANY
Providence, R. I. Exhibit No. 65
Desitin Ointment: for treatment of burns, ulcers, diaper rash, abrasions, etc. Desitin powder: relieves chafing, sunburn, diaper rash, etc. Desitin Suppositories and Rectal Ointment: relieve pain and itching in uncomplicated hemorrhoids, fissures. Desitin Baby Lotion: protective, antiseptic. Desitin Acne Cream: a non-staining, flesh-tinted "Medicream" for the treatment of acne vulgaris. Desitin Cosmetic and Nursery Soap: supermild.

LESTER A. DINE COMPANY
Medical Photo Division
Woodside, N. Y. Exhibit No. 103
Featuring the new sensational Eastman Kodak Startech camera which has been designed for the novice clinical photographer. In addition we will have the electronic ring light set-up, large X-ray copier, new viewing and projection systems for the 35mm slides plus many other items designed for the medical photographer.

DOHO CHEMICAL CORPORATION
New York, N. Y. Exhibit No. 45
Doho Chemical Corporation is pleased to exhibit: Auralgan, otitis media and removal of cerumen; Otosmosan, fungicidal and bactericidal in the suppurative and aural dermatomycotic ears; Rhinalgan, nasal decongestant free from systemic or circulatory effect; Larylgan, throat spray and gargle for infectious and non-infectious sore throat involvements. Mallon Chemical Corporation, Division of Doho: Rectalgan, for relief of pain and discomfiture in hemorrhoids, pruritus and perineal suturing; Dermoplast, an aerosol spray for surface pain, burns, and abrasions; obstetrical and gynecological use.

EATON LABORATORIES
Norwich, N. Y. Exhibit Nos. 59-60
A new drug Altafur® (brand of furaltadone), in tablet form, is available. It is the first nitrofuran effective orally in systemic infections; found highly successful against pulmonary, upper respiratory tract and soft tissue infections; highly effective against certain gram-negative and gram-positive pathogenic bacteria—sensitivity of staphylococci, including antibiotic-resistant strains, has approached 100% in vitro.

EISELE & COMPANY
Nashville, Tenn. Exhibit No. 61
Eisele & Company will display their regular line of clinical thermometers, hypodermic syringes, both the regular type and the interchangeables, hypodermic needles, Eco-bandages and specialty glassware.

ENCYCLOPAEDIA BRITANNICA, INC.
Chicago, Ill. Exhibit No. 91
A great new edition of the Encyclopaedia Britannica, and its correlated fact finding and research services, will be on display at this meeting. To those who may be interested in acquiring Britannica, there is available a special discount. Whether your interest is current or for the future, please visit our booth.

ETHICON, INC.
Somerville, N. J. Exhibit No. 12
Electron sterilized surgical gut, stronger, more pliable, easier to handle, and new easy-open foil suture packages are featured. Exclusive collagen pure, Tru-Chromicized, Tru-Gauged properties of Ethicon surgical gut will be demonstrated, as well as a complete line of Atraloc needle sutures for every surgical need. Tru-Permanized Surgical Silk and Surgical Cotton, along with other surgical specialties, will also be shown.

C. B. FLEET COMPANY, INC.
Lynchburg, Va. Exhibit No. 71
"The Enema: Indications and Technics," a liberally illustrated brochure describing the history of enema medication and administration, is available at booth No. 71. You will also find interesting and authoritative clinical and time-cost studies on routine hospital use of disposable enemas.

FLORIDA BRACE CORPORATION
Winter Park, Fla. Exhibit No. 34
Florida Brace Corporation will exhibit the Jewett Hyperextension Back Brace—standard model for compression fractures, etc., and the fusion model for post spinal fusions. They will also exhibit the Extension-Flexion Cervical Collar, a universal cervical collar for extension, flexion or stabilization; as well as the Myo Cervical Collar.

FULLER PHARMACEUTICAL COMPANY
Minneapolis, Minn. Exhibit No. 74
The Fuller exhibit features Tucks, ready-to-use witch hazel packs for use following perineorrhaphy and anorectal surgery. Also featured is the Fuller Shield, a special protective binder for use following hemorrhoidectomies, fistulectomies, abdominoperineal resections and other anal and perineal operations.

GREAT BOOKS OF THE WESTERN WORLD
Grand Rapids, Mich. Exhibit No. 77
The Great Ideas Program, an advancement in liberal education, is built around the revolutionary Syntopicon. This master-key "Idea-Indexes" all the Great Books, making it possible to find what the great writers and thinkers said about any ideas in minutes. The Program will help business and professional people, students, graduates, or anyone interested in exploring the fascinating world of great ideas.

GRIESHABER MANUFACTURING COMPANY, INC.
Chicago, Ill. Exhibit No. 78

GRUNE & STRATTON, INC., MEDICAL PUBLISHERS
New York, N. Y. Exhibit No. 86
Our Mr. Kurzer will be on hand to show you Grune & Stratton's new series of "Modern Surgical Monographs" as well as other important new books for the surgeon. The first two volumes of "Modern Surgical Monographs" are: Hardy's "Total Surgical Management" and Hampton & Fitts' "Open Reduction of Common Fractures." In addition to the "Modern Surgical Monographs" series, we have also published the following new books of interest to the physician: Wade's "Surgical Treatment of Trauma"; Schmorl & Yunghann's "The Human Spine in Health and Disease"; Harlow's "Atlas of Surgery"; Schobinger's "Intra-Osseous Venography"; Bolten's "Colposcopy"; Saphir's "A Text on Systemic Pathology" (now complete in two volumes); Bohler's three-volume work, "The Treatment of Fractures," as well as many other important new books which you are invited to inspect.

GUARDIAN CHEMICAL CORPORATION
Long Island City, N. Y. Exhibit No. 33
The company will exhibit its Clorpactin XCB for use in destroying viable tumor cells to prevent local recurrence after cancer surgery, and Clorpactin WCS-90 for prevention of postoperative infections and the treatment of antibiotic-resistant infections.

GUDEBROD BROTHERS SILK COMPANY, INC.
New York, N. Y. Exhibit No. 4
The complete line of Gudebrod non-absorbable sutures will be shown. This will include silk sutures in both black and color-coded with the Cerethermic finish, and cotton sutures in blue or color-coded. All are available in money-saving bulk, or in the well-known Dri-Pak ready for use. You are invited to visit our booth.

INSTITUTE OF PUBLIC INFORMATION
New York, N. Y. Exhibit No. 84
Congeners (fusel oil, aldehydes, acids, etc.) are substances found in all alcoholic beverages that provide the taste, bouquet, and color. In large amounts, however, congeners may produce toxic effects. This exhibit presents the results of quantitative chemical analyses of congeners found in six leading types of distilled spirits along with correlated acute oral toxicity studies obtained on rats. (Pertinent literature will be available.)

INTERNATIONAL TRAVEL SERVICE, INC.
Chicago, Ill. Exhibit No. 104
All roads lead to Rome and the 12th Biannual International Congress of the International College of Surgeons, May 15-18, 1960. Four travel plans offered by your official travel representative, International Travel Service, Inc. of Chicago. Reservations being accepted. Don't delay; stop at Booth 104 for full particulars.

JACUZZI RESEARCH, INC.
Berkeley, Calif. Exhibit No. 23
Jacuzzi Whirlpool Bath is a lightweight, portable, and low cost but highly effective whirlpool therapy unit. Ideal for office and clinical use, and especially designed for treatment in the home bathtub. Continuous demonstrations at Jacuzzi booth No. 23, with Miss Winifred Blanchard on hand to discuss the unit with visitors.

THE JOURNAL
INTERNATIONAL COLLEGE OF SURGEONS
Chicago, Illinois Exhibit Nos. 55-56

JOHN L. KRAUSE & ASSOCIATES
International College of Surgeons
malpractice insurance.
Evanston, Ill. Exhibit No. 36
Administrators for the group malpractice insurance plan which is now entering its fourth successful year. Up to $200,000/$600,000 limits of liability are available and considerable savings in premium can be realized in most instances. Partnerships can also be included under the plan, if one partner is an ICS Member.

LEA & FEBIGER
Philadelphia, Pa. Exhibit No. 101
Be sure to see these new books, new editions and current standard titles for surgeons: Fried, "Tumors of the Lungs and Mediastinum"; Pollack, "Treatment of Breast Tumors"; Pollack, "Tumor Surgery of the Head and Neck"; Partipilo, "Surgical Technic and Principles of Operative Surgery"; Dornette and Brechner, "Instrumentation in Anesthesiology"; Jaffe, "Tumors and Tumorous Conditions of the Head and Neck"; Lewin, "The Foot and Ankle"; etc.

LEDERLE LABORATORIES
Pearl River, N. Y. **Exhibit No. 37**
You are cordially invited to visit the Lederle booth where our medical representatives will be in attendance to provide the latest information and literature available on our line. Featured will be Achromycin V, Aristocart and many other of our dependable quality products.

ELI LILLY & COMPANY
Indianapolis, Ind. **Exhibit Nos. 18-19**
You are cordially invited to visit the Lilly exhibit, located in space Nos. 18 and 19. The Lilly sales people in attendance welcome your questions about Lilly products and recent therapeutic developments.

J. B. LIPPINCOTT COMPANY
Philadelphia, Pa. **Exhibit Nos. 81-82**
J. B. Lippincott Company presents, for your approval, a display of professional books and journals geared to the latest and most important trends in current medicine and surgery. These publications, written and edited by men active in clinical fields and teaching, are a continuation of more than 100 years of traditionally significant publishing.

P. LORILLARD COMPANY
New York, N. Y. **Exhibit No. 75**
P. Lorillard Company invites you to visit the Kent Cigarette exhibit. We are presenting the story of Kent Cigarettes. You will learn about Kent's free and easy drawing Micronite filter, about Kent's exclusive super-porous Micropore paper which lets cool air in, lets heat escape through microscopic pores, and about Kent's 100% natural tobaccos. In addition, you will learn how Kent has reduced tars and nicotine in the smoke you inhale to the lowest level among all leading brands. A table cigarette box with your signature in gold will be a pleasant souvenir of your visit to the convention.

THE MARK COMPANY
Randolph, Mass. **Exhibit No. 102**
This exhibit will consist of the very latest cardiovascular instrumentation, including all types of mechanical heart lung apparatus, in addition to flow-meters, wide selection of stainless steel, Nylon, and Teflon connectors, cannula, etc. As leaders in this field, completely automatic mechanical heart lung units, along with manually controlled instruments, heart defibrillators, pacemakers, and midget-type internal and external pacemakers will be shown. Technical personnel will be in a position to give complete information on the newest mechanical heart lung apparatus imported from France, which will also be exhibited.

MEDCO PRODUCTS COMPANY
Tulsa, Okla. **Exhibit No. 63**
Presenting the Medco-Sonlator, providing a new concept in therapy by combining muscle stimulation and ultra sound simultaneously through a single three-way sound applicator. The Medco-Sonlator is a distinct advance in the effectiveness of physical therapy in office or hospital. A few minutes spent in our booth should prove of value to your practice.

MEDICAL AIDS, INC.
Park Ridge, Ill. **Exhibit No. 28**
Medical Aids, Inc., will feature a complete line of pressure bandages, including the well-known Dalzoflex and Primer combination, recommended in the treatment of leg ulcers, phlebitis, etc.; the Nulast elastic crepe bandage, constructed of Viscolax rubber threads, Dalmas elastic strapping, which is waterproof, oil and grease resistant; Gold Strike splints, and assorted finger and wound dressings.

MERCK SHARP & DOHME
Philadelphia, Pa. **Exhibit No. 15**
Injection 'Aramine,' a superior vasopressor with a choice of routes for optimal response, is featured at the Merck Sharp & Dohme booth. 'Aramine' rapidly raises and maintains blood pressure in shock. Simplicity of administration with reported freedom from tissue slough, necrosis or thrombophlebitis encourages its prompt use. 'Leritine' (anileridine), the first example of a synthetic narcotic drug where potency has been increased by the addition of an aminophenethyl group to a chemical structure already having analgesic properties is also of interest.

MILES REPRODUCER COMPANY
New York, N. Y. **Exhibit No. 48**
The new lightweight, miniature, self-powered "Recordall" solves the record problem of the physician in and out of the office. Recording may be made in or out of closed briefcase within a radius of 60 feet, minimizing all background noises such as traffic, air conditioners, etc. Ideal for office and bedside interviews, lectures, staff-meetings, hospital rounds, nurse training, telephone, etc. Optional provision for excluding everything except dictation spoken or whispered into the microphone. Most useful in car, plane. J. M. Kuhlik and Mrs. H. B. Kuhlik are in charge.

MILEX-ALPHA PRODUCTS
Evanston, Ill. **Exhibit No. 49**
Milex representatives will be on hand to demonstrate the new instruments for cold-conization of the cervix, the Seiger Cervitome and Coagsuc, as well as the new Twin-Tenaculum. Milex Amino-Cerv Gel, a new development for the post-surgical treatment of the cervix, will also be on display along with the other well-known Milex Gynecic specialties.

MILLER SURGICAL COMPANY
Chicago, Ill. **Exhibit No. 29**
See the Miller Electro-Scalpel and other electro-surgical units with snares, suction-coagulation attachments and other special accessories. These cutting, coagulating, and desiccating units, with or without spark gap, are designed to do the most delicate work as well as light major surgery. There will also be on display, illuminated otoscopes, eyespud with magnet, ophthalmoscope, transilluminating lamps, Lempert-type headlite, and Gorsch designed operating scopes and stainless steel proctoscopes.

C. V. MOSBY COMPANY
St. Louis, Mo. **Exhibit No. 11**
New knowledge, new ideas, new research and technique—all are waiting for you in the newest Mosby books for 1958 and 1959. Come in. Look over these books at your leisure and convenience. If you wish assistance, our experienced representative will be happy to discuss any book with you.

V. MUELLER & COMPANY
Chicago, Ill. **Exhibit Nos. 2-3**
V. Mueller & Company's comprehensive display of fine surgical instruments will be of interest to every surgeon. Discussion of new technique and your instrument problems is particularly invited. The Muller cardiovascular clamps and the Moerch piston respirator will be shown.

OHIO CHEMICAL & SURGICAL EQUIPMENT COMPANY
Madison, Wis. **Exhibit No. 16**
See the extensive array of world-famous, high-quality Stille surgical instruments. Featured items will include such new and improved needle holders as Bjork, Potts, and New Orleans; plus various Metzenbaum and Mayo tonsil and dissecting scissors. Many other Stille instruments will be on display for your personal inspection.

ORTHOPEDIC FRAME COMPANY

Kalamazoo, Mich. Exhibit No. 44

The Stryker CircOlectric Bed will be featured, together with Stryker power surgical instruments, including the Stryker Rolo-Dermatome. These products will be demonstrated by factory personnel trained to answer your detailed questions.

OXY-LYFE CORPORATION

Chicago, Ill. Exhibit No. 92

Oxy-Lyfe is the latest in lightweight, portable inhalation equipment. Available in 10 models. Varying duration from 30 minutes to 10 hours. Units are complete, ready to use and are packed in a handy luggage type carrying case. Priced from $39.50.

PARKE, DAVIS & COMPANY

Detroit, Mich. Exhibit No. 35

Medical service members of our staff will be in attendance at our booth to discuss important Parke-Davis specialties which will be on display.

PFIZER LABORATORIES

Brooklyn, N. Y. Exhibit No. 72

The Pfizer Laboratories' display has been specifically arranged for your convenience and to give you the maximum in quick service and product information. To make your visit worthwhile, technically trained medical service representatives will be on hand to inform you of the latest developments in Pfizer research.

PROFESSIONAL LIFE & CASUALTY COMPANY

Chicago, Ill. Exhibit No. 69

The exhibit features a new type of sickness and accident insurance policy offered only to members of the medical and dental professions.

PURDUE FREDERICK COMPANY

New York, N. Y. Exhibit No. 80

Senokot: constipation corrective; concentrated total senna glycosides which activate Auerbach's plexus, initiate normal neuroperistalsis. Cerumenex: cerumenolytic for the quick removal of excessive cerumen; contains Cerapon, a new surfactant, with propylene glycol and chlorbutanol. Soropon: antiseborrheic for cradle cap. Contains (1) Cerapon-C, to disorganize protein and lipid components of crusts; (2) Tyrothricin, to combat infection; (3) Parabens, as preservative; (3) propylene glycol, as water-miscible vehicle.

R. J. REYNOLDS TOBACCO COMPANY

Winston-Salem, N. C. Exhibit No. 39

Welcome to the R. J. Reynolds Tobacco Company Exhibit! You are cordially invited to receive a cigarette case (monogrammed with your initials) containing your choice of Camel, Winston Filter, Menthol Fresh Salem, or Cavalier King Size Cigarettes.

RICHARDS MANUFACTURING COMPANY

Memphis, Tenn. Exhibit No. 10

The latest developments in orthopedic and fracture instruments and equipment will be displayed by our conscientious and efficient representatives. America's finest production of surgical implants from the femur to the finger; produced from Smo Stainless in an unexcelled manner, through rigid inspection. New instruments for the latest techniques of various cases will be prominent in display. This display could be your headquarters.

A. H. ROBINS COMPANY, INC.

Richmond, Va. Exhibit No. 17

The peak of the late summer allergy "season" puts Dimetane in the featured spot in the A. H. Robins exhibit. This unexcelled antihistamine is available in Extentabs, conventional tablets, elixir, and in injectable form. Also shown are Robitussin and Robitussin A-C for cough control, Robaxin for relief of skeletal muscle spasm, Allbee with C, and Donnagel.

W. B. SAUNDERS COMPANY

Philadelphia, Pa. Exhibit Nos. 7-8

New Saunders titles published since the last annual meeting include: Potts: "The Surgeon and the Child"; Shambaugh: "Surgery of the Ear"; Weyrauch: "Surgery of the Prostate"; Turell: "Anorectum and Colon"; De Takats: "Vascular Surgery"; McLaughlin: "Trauma"; Dunphy and Botsford: "Examination of the Surgical Patient"; "Christopher's Minor Surgery" by Ochsner and DeBakey; DePalma, "Fractures and Dislocations."

DENNIS R. SCANLAN INC.

St. Paul, Minn. Exhibit No. 73

The complete line of Scanlan Swedish stainless steel surgical instruments known the world over for their quality and design is displayed. Scanlan instruments are made in Sweden at a factory established in 1808.

SCHOLL MANUFACTURING COMPANY, INC.

Chicago, Ill. Exhibit No. 79

Registered nurses will demonstrate Tubegauz, the new seamless, tubular gauze bandage. They will also be available to answer any questions on new orthopedic bandages. A complete line of other School surgical dressings, orthopedic appliances and adhesives will be on display.

SCIENTIFIC EQUIPMENT MANUFACTURING COMPANY

Seattle, Wash. Exhibit No. 68

The Knott technic of blood irradiation has proved a safe and efficient means of rapidly controlling many viral pathologies, particularly viral hepatitis. Its rationale includes increase of blood oxygen, increased phagocytosis, relief of toxemia and decrease of edema. The Knott Hemo-Irradiator will be demonstrated twice daily.

G. D. SEARLE & COMPANY

Chicago, Ill. Exhibit No. 1

You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle products of research. Featured will be Dartal, the new tranquilizing agent which controls activities associated with anxiety states and other neuroses; Enovid, the new synthetic steroid for treatment of various menstrual disorders; Zanchol, a new biliary abstergent; Niievar, the new anabolic agent; Rolicton, a new safe, nonmercurial oral diuretic; Vallestril, new synthetic estrogen with extremely low incidence of side reactions; Pro-Banthine and Pro-Banthine with Dartal, the standards in anti-cholinergic therapy; and Dramamine and Dramamine-D, for the prevention and treatment of motion sickness and other nauseas.

SMITH, KLINE & FRENCH LABORATORIES

Philadelphia, Pa. Exhibit No. 9

S.K.F. features (1) Stelazine Tablets (new), for anxiety, particularly when expressed as apathy, listlessness, and emotional fatigue; (2) Compazine®, the tranquilizer and antiemetic with minimal side effects; (3) Thorazine®, one of the fundamental drugs in medicine; and (4) Spansule® brand capsules, for therapeutic effect as fast as tablets, sustained for 10 to 12 hours.

SNOWDEN-PENCER CORPORATION
Los Gatos, Calif. **Exhibit No. 67**

The Snowden-Pencer Corporation, exclusive manufacturers of Ochsner Diamond Jaw Needle Holders, has perfected a line of surgical scissors with tungsten-carbide cutting edges. This material, the hardest metal made by man, is permanently built into the cutting blade of the scissors. It offers extraordinary resistance to wear and maintains sharpness for extremely long periods of time. Another Snowden-Pencer exclusive is a very fine rust inhibiting lubricate called Surgical Instrument-Milk.

E. R. SQUIBB & SONS
New York, N. Y. **Exhibit Nos. 87-88**

E. R. Squibb & Sons has long been a leader in the development of new therapeutic agents for prevention and treatment of disease. The results of our diligent research are available to the medical profession in new products or improvements in products already marketed. At booths Nos. 87 and 88, we are pleased to present up-to-date information on these advances for your consideration.

STILLE INSTRUMENTS
(See Ohio Chemical—Exhibit No. 16)

WILLIAMS & WILKINS COMPANY
Baltimore, Md. **Exhibit No. 70**

Among the outstanding surgical books displayed by the Williams & Wilkins Company are the following "best-sellers": "Pathophysiology in Surgery," J. D. Hardy. "Transplantation of Tissues" (Vol. II), L. A. Peer (just published). "Surgical Treatment of Facial Injuries," Kazanjian and Converse. "Groves' Synopsis of Surgery," Sir Cecil Wakeley. "Care of the Surgical Patient," Glassman and McNealy. "Emergency Surgery," Bailey. "A Companion in Surgical Studies," Aird. "Essentials of Modern Surgery," Handfield-Jones and Porritt. "Surgery of the Colon," Hughes. Be sure to see the vivid 3-D display of Bassett's "Stereoscopic Atlas of Human Anatomy."

WYNLIT PHARMACEUTICALS
Madison, N. J. **Exhibit No. 90**

MAX WOCHER & SON COMPANY
Cincinnati, Ohio **Exhibit No. 89**

The Max Wocher & Son Company will exhibit its most complete line of surgical instruments, both imported patterns and domestic patterns, together with many Wocher specialties for which they are well known.

YEAR BOOK PUBLISHERS, INC.
Chicago, Ill. **Exhibit No. 66**

Year Book Publishers will display its complete line of some 150 titles, including the following of special interest to the practicing surgeon: "Handbooks of Operative Surgery" (Now 7 volumes); Requarth's "Acute Abdomen"; Palumbo's "Surgical Service Guide"; Bernstein's "Intern's Manual"; Cave's "Fractures and Other Injuries"; and Compere's "Pictorial Handbook of Fracture Treatment."

F. E. YOUNG & COMPANY
Chicago, Ill. **Exhibit No. 58**

F. E. Young & Company will exhibit Young's Dilators, used in the treatment and prevention of contracted anus, particularly following hemorrhoidectomy. Also, as an aid in perineal dissection, repair following delivery and vaginal surgery. Young's PSP Test Set, Young's Albumin Test and Jen-i-sol will also be shown.

ZIMMER MANUFACTURING COMPANY
Warsaw, Ind. **Exhibit Nos. 5-6**

Zimmer Manufacturing Company will exhibit new dual all rubber walking heels, new acetabulum gauge, new sterilizing racks for instruments, new Temple University nails and plates, as well as a full assortment of instruments and appliances for orthopedic surgery.

HAVE YOU CHANGED YOUR ADDRESS?

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The Journal of the International College of Surgeons

Vol. 32, No. 3 SECTION II September, 1959

BULLETIN

Embodying Activities of the World Federation of General Surgeons and Surgical Specialists, Section News and Comments

Editor-in-Chief—MAX THOREK, M.D.
Associate Editor—PHILIP THOREK, M.D.
Consulting Editor—MORRIS FISHBEIN, M.D.
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Schedule of Meetings

INTERNATIONAL COLLEGE OF SURGEONS

1959

September 28-29 Chattanooga Tennessee	Tennessee State Chapter U. S. Section, International College of Surgeons
September 30-October 4 Guayaquil, Ecuador	Ecuador Section International College of Surgeons
October 18-24 Poços de Caldas, Brazil	Brazilian Section International College of Surgeons
October 30 Hong Kong, China	China—Hong Kong Section International College of Surgeons
November 2 Tokyo, Japan	Japan Section International College of Surgeons
November 2 Bangkok, Thailand	Thailand Section International College of Surgeons
November 14-15 Bruges, Belgium	Belgian Section International College of Surgeons
November 16-18 Hot Springs, Virginia	Mid-Atlantic Sectional Meeting U. S. Section, International College of Surgeons
November 22-24 Las Vegas, Nevada	Western Regional Meeting U. S. Section, International College of Surgeons
December Taipei, Taiwan (Formosa)	China—Formosa Section International College of Surgeons
December Jaipur (Rajasthan) India	India Section International College of Surgeons

AROUND-THE-WORLD POSTGRADUATE CLINIC TOUR

October 10 - November 28

DR. EDWARD L. COMPERE COORDINATOR

Schedule of Meetings

1960

Twelfth Biennial

International Congress

INTERNATIONAL COLLEGE OF SURGEONS

Under the Auspices of
His Excellency

the President of the Republic of Italy

PROF. DR. PIETRO VALDONI
CONGRESS PRESIDENT

May 15-18 Rome, Italy

Roads to Rome Tours

Combine

Attendance at the Congress With
One of Four
International College of Surgeons European Tours

I: A 21-day tour—New York, Rome and the Congress, Munich, Lucerne, Paris, Amsterdam, London and return to New York.

II: A 35-day tour—New York, Paris, Nice, Rome and the Congress, Naples, Sorrento, Capri, Florence, Venice, Lucerne, Heidelberg, Rhine cruise, Amsterdam, London and return to New York.

III: A 37-day tour—New York, Lisbon, Madrid, French Riviera, Rome and the Congress, Florence, Venice, Innsbruck, Salzburg, Munich, Heidelberg, Frankfurt, Rhine cruise, Paris, London and return to New York.

IV: A 40-day tour: New York, Rome and the Congress, Vienna, Moscow, Leningrad, Helsinki, Stockholm, Oslo, Copenhagen, Glasgow, Dublin and return to New York.

DR. HENRY W. MEYERDING
F.A.C.S., F.I.C.S. (Hon.), D.A.B.
President
International College of Surgeons

DR. EDWARD L. COMPERE
F.A.C.S., F.I.C.S. (Hon.), D.A.B.
President, United States Section
Secretary, North American Federation
International College of Surgeons

North American Federation Leaders

INTERNATIONAL COLLEGE OF SURGEONS

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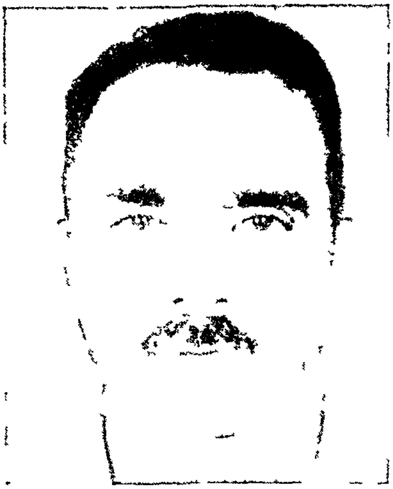
Guatemala

Dr. Mariano Samayoa
F.I.C.S.
President
El Salvador Section

Dr. Antoni Leveque
F.I.C.S.
President
Haiti Section



Dr. Gustav Andreas Engler
Representing
Panama

Dr. J. R. Nunez Portuondo
F.A.C.S., F.I.C.S.
Representing
Cuba

Twenty-Fourth Annual Congress
North American Federation
International College of Surgeons

Comprising

THE UNITED STATES OF AMERICA, CANADA, THE UNITED STATES OF MEXICO, CUBA,
HAITI, GUATEMALA, HONDURAS, EL SALVADOR, NICARAGUA, COSTA RICA AND PANAMA

September 13-17, 1959

Palmer House **Chicago, Illinois**

This is being written just days prior to the opening of the Congress, when the shape of things to come has taken on definite dimensions. All is in readiness and awaiting the arrival of guests.

The guests are coming. If advance registration is an index, this is going to be a great Congress. Not only from the far reaches of this North American Federation, but also from almost all parts of the world, surgeons are coming to spend these several days in constructive communication with each other. World leaders in surgery and surgical specialties are bringing their latest theories and technics to demonstrate before a discriminating jury of their peers. Discussion will be on the highest scientific and practical level.

We look forward to the presence of **Dr. Henry W. Meyerding**, F.A.C.S., F.I.C.S. (Hon.), president of the International College of Surgeons; **Dr. Edward L. Compere**, F.A.C.S., F.I.C.S. (Hon.), president of the United States Section and secretary of the North American Federation of the College; **Dr. George J. Strean**, F.R.C.C., F.I.C.S., president of the Canadian Section; **Dr. Raúl Arturo Chavira**, F.A.C.S., F.I.C.S. (Hon.), president of the Mexican Section; **Dr. Antoni Leveque**, F.I.C.S., president of the Haiti Section; **Dr. Jose R. Duron**, F.I.C.S., president of the Honduras Section; **Dr. Mariano Samayoa**, F.I.C.S., president of the El Salvador Section; **Dr. Oscar Pacheco Chaverri**, F.I.C.S., president of the Costa Rica Section; **Dr. Humberto Alvarado**, F.I.C.S., vice-president of the Nicaragua Section; **Dr. J. R. Nunez Portuondo**, F.A.C.S., F.I.C.S., representing Cuba; **Dr. Ricardo Aguilar Meza**, F.A.C.S., F.I.C.S., representing Guatemala, and **Dr. Gustav Andreas Engler**, F.I.C.S., representing Panama.

Meetings of Executive Bodies of the College

On Sunday, September 13, while most of the congressists will be registering and looking up each other and arranging for get-togethers with old associates and friends, the section presidents and other officers who carry responsibility for the conduct of the affairs of the College will already be at work.

Early for a Sunday morning—at nine o'clock—the International Executive Council will be called to order at the College Home. It will stay in session until noon, when luncheon will be served, unless indeed luncheon is delayed awaiting the completion of international business.

From two to five in the afternoon the House of Delegates of the United States Section will meet. That legislative body, too, has a full and exacting agenda.

The General Assemblies

On Monday morning, at nine, the first general assembly will inaugurate the Congress sessions.

Dr. Peter A. Rosi
F.A.C.S., F.I.C.S.
Chairman
General Program Committee

It will be presided over by **Dr. Harry E. Bacon,** F.A.C.S., F.I.C.S. (Hon.), president-elect of the United States Section of the International College of Surgeons. **Dr. E. N. C. McAmmond,** secretary of the Canadian Section, will act as secretary.

Dr. Compere will deliver the welcoming address. Greetings will be extended by the **Honorable Richard J. Daley,** mayor of the city of Chicago, and by **Dr. George C. Turner,** assistant professor of medicine at Northwestern University Medical School and president of the Chicago Medical Society, which is specifically being honored by the Congress.

Dr. Harry E. Bacon
F.A.C.S., F.I.C.S. (Hon.)
Chairman
Monday Morning Assembly

General assemblies will be held every day, Monday through Thursday, from nine in the morning to noon and from two to five in the afternoon.

The highlight, if any presentation can be singled out for emphasis, on Tuesday morning, will be the Herbert Acuff Memorial Lecture delivered by **Prof. Dr. Sten Axel Friberg** of Stockholm, Sweden, and on Wednesday the André Crotti Memorial Lecture delivered by **Dr. Claude S. Beck,** Sc.D., F.A.C.S., of Cleveland.

Each of the memorial lectures honors a man who had served the International College of Surgeons both as president of the United States Section and as president of the College.

Dr. Beck, professor of cardiovascular surgery at Western Reserve University School of Medicine, associate surgeon at the University Hospitals, chief consulting neurosurgeon at Crile Veterans Administration Hospital and cardiac consultant at Mt. Sinai Hospital, will speak on *Hearts Too Good to Die—Our Problem.*

The Thursday afternoon assembly is arousing a wave of interest in a wide circle of congressists. It will deal with *Medical Operations and Research in Climatic and Environmental Extremes.*

Dr. Ross T. McIntire
F.A.C.S. (Hon.), F.I.C.S. (Hon.)
Chairman
Thursday Afternoon Assembly

The participants will be: **Rear Admiral Bartholomew W. Hogan,** M.C., U.S.N., Surgeon General of the United States Navy; **Capt. Charles F. Gell,** M.C., U.S.N., who will present a paper on *Biological Stressors in Atmospheric and Extra-atmospheric Flight;* **Prof. Dr. Dietrich E. Beischer,** head of the biophysical laboratory at the U.S. Naval School of Aviation Medicine in Pensacola, Florida, who will speak on *Development and Utilization of the Sealed Capsule for Primates in Outer Space;* **Dr. Howard H. Vogel, Jr.,** of the Argonne National Laboratory, discussing *Protection Against Acute Radiation Death;* **Comdr. David Minard,** M.C., U.S.N., of the Naval Medical Research Institute at the National Naval Medical Center in Bethesda, Maryland, reporting on *Heat Stress in Tropical Climates,* and **Lt. Comdr. John H. Ebersole,** M.C., U.S.N., who will give an account on his experience as medical officer on the USS Seawolf intriguingly entitled *Sixty Days Under the Atlantic Ocean—Report of the Problems on a Constantly Submerged Atomic Submarine.*

A special assembly which is arousing much interest will take place at eight o'clock on Monday evening, September 14, in the Grand Ballroom of the Palmer House. It will present **Capt. E. E. Hedblom,** M.C., U.S. Navy, commander of the U.S. Naval Support Force, Antarctica, who will give an account of his Antarctic experiences—*Four Years of Operation Deep Freeze*—and discuss the problems of living in the frigid zones.

The other participants will be **Prof. Dr. J. André Thomas,** of the Sorbonne and the Pasteur Institute in Paris, and his collaborator, **Dr. Jean Vaysse.**

Dr. Colin A. Ross
F.R.C.S.(C.), F.A.C.S., F.I.C.S.
Essayist
Monday Afternoon Assembly

Dr. Vaysse is a graduate of the Medical Faculty of the University of Paris and is assistant to **Prof. De Gaudart d'Allaines** at his surgical cardiovascular clinic. Since 1956 he has been the head of the surgical experimental center of the Claude Bernard Association, and in 1957 was elected to membership in the French Cardiology Association. Capable and most versatile, Dr. Vaysse has done experimental work in digestive surgery, kidney transplantation, cardiovascular surgery and cardiac reanimation.

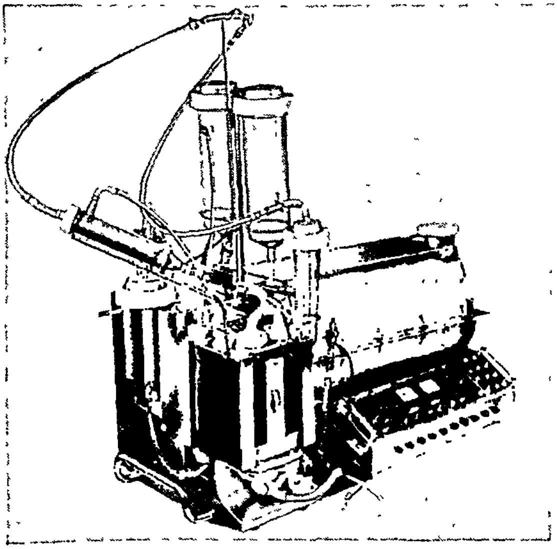
Since 1950 Dr. Vaysse has devoted most of his time to the problem of extracorporeal circulation. His collaboration with Prof. Thomas has been most fruitful. Together they have performed more than fifty interventions of open heart surgery with the apparatus perfected by Prof. Thomas. The apparatus will be exhibited and demonstrated at this session.

The Specialty Sessions

A number of innovations will mark the surgical specialty sessions.

On Thursday morning, September 17, a rehabilitation program will be presented with **Dr. Louis B. Newman** of Chicago, president of the Academy of Physical Medicine and Rehabilitation, acting as moderator. A participant, in a sense the guest of honor of the occasion, will be **Major General Melvin J. Maas, U.S.M.C.**, Chairman of the President's Committee on Employment of the Physically Handicapped.

Gen. Maas was named chairman of the President's Committee by President Eisenhower on April 13, 1954, and on May 29, 1956, also was appointed chairman of the Committee for the Handicapped of the President's People-to-People Program.



Apparatus to be demonstrated by Prof. Dr. Thomas and Dr. Vaysse at Monday Evening Assembly

His career includes sixteen years as a congressman from Minnesota and service in the United States Marines in three wars, rising from a private to his present rank. He is a native of Duluth, Minnesota.

Gen. Maas was first elected to Congress from Minnesota in 1926 at the age of twenty-seven. He served in the House from 1927 to 1933 and from 1935 to 1945. In 1933 he received national recognition and the Carnegie Silver Medal for heroism when, in the House galleries, he disarmed a man who was threatening members with a loaded revolver. During his career in Congress he specialized in legislation promoting aviation, national defense and measures to improve the unemployment situation, and was a distinguished member of the foreign affairs committee.

He entered the Marine Corps April 6, 1917, and served with Marine aviation in the Azores throughout the war. In 1926, prior to entering Congress, he accepted a Marine reserve commission. In the summer of 1941 he returned to active duty and served at sea on the staff of Admiral William Halsey and in 1942 with Admiral Frank J. Fletcher in the Solomons campaign. He also served as a Marine Corps observer with General Douglas MacArthur in Australia and New Guinea. He was awarded the Silver Star Medal for service with the Army Air Force at the Battle of Milne Bay in 1942 and won the Legion of Merit in combat. In addition, he wears twelve other ribbons. In the fall of 1942 Gen. Maas resumed his duties in Congress but returned to active duty in January 1945. In May of that year he assumed command of the Awase Air Base, Okinawa, where he received the Purple Heart. He was promoted to Brigadier General in the Marine Reserve, June 1, 1950.

Blindness overtook him in 1952 and on August 1 of that year he retired and was advanced to Major General rank for having been specially commended in combat.

As though crowding two careers into one lifetime were not enough, in addition to being a legislator and a military man Gen. Maas at various times has successfully engaged in business.

All this accumulated experience is serving him well. He has attacked the responsibilities and duties of his new assignment with sure knowledge and efficiency, and is accomplishing much in this pioneering and complex field of rehabilitation. It will be an honor and an illuminating experience to hear him and to meet him.

The General resides with his wife, Katherine, and their son, Melvin Joseph, Jr., in Chevy Chase, Maryland. His daughter Patricia is a Woman Marine captain and the other two daughters are married.

Motion Pictures

The film forum and medical motion picture committee, **Dr. Philip Thorek**, F.A.C.S., F.I.C.S., D.A.B., chairman, and **Dr. Jerome J. Moses**, F.A.C.S., F.I.C.S., D.A.B., co-chairman, has been carefully screening this year's available films and organizing a timely and interesting program.

Participation of the Young Surgeons

Throughout its duration the Congress will address itself to its primary aim of teaching.

For there will be among us young surgeons aspiring to become great surgeons. They will be the leaders in the surgery of the future. Meanwhile they are eager to know and to evaluate everything the present leadership can teach them. They will throng to our sessions and our instructional courses, and together with all the congressists enjoy the privilege of getting to know each other.

Nor will they be limited to sitting and listening to their elders.

The International College of Surgeons as an organization is dedicated to encouraging participation at its Congresses by young surgeons and surgical residents.

Announcement has been made by the Scholarship Committee of the United States Section that **Dr. Lawrence Allen Shapiro**, a resident at the Naval Base Hospital at Charleston, South Carolina, has been chosen to present an original paper before the Congress. Dr. Shapiro is twenty-nine years old and a graduate of the University of Illinois College of Medicine, class of 1955. His award-winning paper is entitled *Degenerative and Inflammatory Pathology of the Major Salivary Glands.* It will be presented on Monday afternoon before Section II of the general assembly.

Two young surgeons who are associated as residents under Dr. Harry E. Bacon at Temple University Medical Center in Philadelphia will be privileged to present their papers before the Wednesday afternoon session of the coloproctologic surgery section.

Dr. Julio R. Pineda, who has been a resident in colon and rectal surgery at the Medical Center since 1957, will read a paper on *Diffuse Infiltrating Adenocarcinoma of the Rectum: Report of Three Cases.*

Dr. Pineda was born in Guatemala City, Central America, in 1924. He is married

Lt. Comdr. John H. Ebersole
M.C., U.S.N.
Essayist
Thursday Afternoon Assembly

Dr. Philip Thorek
F.A.C.S., F.I.C.S.
Chairman
Film Forum and Surgical Motion Pictures

and the father of four children. He received his B.S. degree from the Infantes School, and his M.D. from the Guatemala Medical School. He interned and served an assistant surgical residency at the Guatemala General Hospital. He then accepted an eighteen-month residency in surgery at Tiquisate Hospital in Guatemala, followed by a further two-year residency at San Marcos Hospital, at the completion of which he became a surgeon at the latter hospital as well as surgeon with the Guatemalan Institute of Social Security.

He is a member of the *Colegio Medico de Guatemala,* the Pennsylvania and the American Proctologic Societies and a Junior Member of the International College of Surgeons.

Dr. Burchard E. Winne, the other Temple University Medical Center resident who will appear before the coloproctologic surgery section, was born in Puerto Rico in 1922, but was educated mainly in the United States and is a resident of Toledo, Ohio.

He holds a B.A. degree from Syracuse University and an M.D. degree from the Stritch School of Medicine of Loyola University in Chicago. He served an internship at the Mercy Hospital in Toledo, followed by a residency in general surgery, interrupted by a two-year period of active duty as captain in the Medical Corps of the U.S. Army. He then practiced general surgery in Toledo and was clinical associate in general surgery at Mercy Hospital. He has been a resident in diseases of the colon, rectum and anus under Dr. Bacon at Temple University Medical Center since January 1958. He is a member of the Pennsylvania and the American Proctologic Societies and a Junior Member in the International College of Surgeons.

Dr. Julio R. Pineda
J.M.I.C.S.
Essayist
Coloproctologic Surgery Section

The title of the paper Dr. Winne will present is *Regional Enteritis Complicated by Free Perforation and Generalized Peritonitis: Report of Two Cases.*

Orthopedic Instructional Courses

One of the specialty sections which is approaching the matter of teaching in a direct and pragmatic manner is the orthopedic section. Two years ago at the Congress the section instituted a program of postgraduate instructional courses. The response was so ready and so widespread, that this year a series of early morning courses will be presented (8:00 to 9:30) Monday through Thursday, and postgraduate symposia will take place each afternoon, Monday, Tuesday and Wednesday.

Dr. Burchard E. Winne
J.M.I.C.S.
Essayist
Coloproctologic Surgery Section

Surgical Nurses' Program

Three programs have been arranged specially for surgical nurses. They were arranged by the Operating Room Section of the Illinois Nurses Association, and will take place between ten and twelve o'clock on Monday, Tuesday and Wednesday mornings.

Presiding over the sessions will be **Miss Filomena Mangene**, R.N., operating room supervisor at the Veterans Administration Research Hospital in Chicago.

On Monday morning, **Dr. Edward L. Compere**, president of the United States Section of the International College of Surgeons and professor and chairman of the department of orthopedic surgery at Northwestern University Medical School, will deliver the opening address and speak on *Orthopedic Surgery and the Role of the Operating Room Nurse.*

Miss Filomena Mangene
R.N.
Chairman
Surgical Nurses' Program

On Tuesday, **Dr. Hampar Kelikian**, F.A.C.S., F.I.C.S., associate professor of orthopedic surgery at Northwestern University Medical School and senior attending orthopedic surgeon at Chicago Wesley Memorial Hospital, will speak on *Plastic Surgery of the Hand.*

Wednesday morning, the session will hear **Dr. George E. Shambaugh, Jr.**, F.I.C.S., professor and chairman of the department of otolaryngology at Northwestern University Medical School and head of the department of otolaryngology at Chicago Wesley Memorial Hospital, discuss *Surgery of the Ear.*

Each morning the formal addresses will be followed by question-and-answer and discussion periods.

Nurses are welcome at all sessions of the Congress. They are invited to register, but there will be no registration charge.

On the Social Side

Mostly, of course, the Congress is serious hard work. But wherever men who have much in common come together there is bound to arise the spirit of good fellowship. This is particularly true at the Congresses of the International College of

Dr. Karl A. Meyer
F.A.C.S., F.I.C.S. (Hon.)
Secretary
United States Section

Surgeons. Friendships that spring from mutual respect and democratic practices tend to be deeper than those that might come from narrower channels.

Consequently, throughout the sessions congressists seek out each other to exchange views on scientific subjects and to continue a discussion that may have begun during a formal program but may not terminate, if ever, until all the changes have been rung. The upshot is that an intellectual experience becomes personal and in a professional colleague a friend is found.

This spirit is further fostered by the social occasions arranged by the College. There are the official luncheons of various groups. And dinners such as the Canadian Section dinner on the evening of Tuesday, September 15.

The Great Banquet

Preceded by the Speidel social hour in the red lacquer room, the annual banquet will take place in the grand ballroom of the Palmer House on Wednesday evening, September 16. The banquet committee has legislated that there be no speeches. The after-dinner program as planned is to be all professional—but not surgical or scientific. There will be a live orchestra to provide music and some lively performers. Special effort is being made to seat guests in groups according to their preference, to insure every comfort and to provide a most pleasurable experience.

Convocation

The culminating event of the Congress of course is the Convocation.

College tradition has developed to the point that the Convocation proceedings move smoothly and effectively in a beautiful and significant pageant which makes the induction of new members and the conferring of Fellowships a memorable occasion.

The 1959 Convocation will be marked by the presence of eminent participants including **United States Senator Lister Hill** and **Dr. Sten A. Friberg** of Stockholm, Sweden, and a roster of distinguished surgeons and scientists whom the College has elected to honor.

It will be an impressive and enjoyable occasion and the appropriate climax to an important surgical and scientific Congress.

Dr. E. N. C. McAmmond
F.R.C.S., F.I.C.S.
Secretary
Canadian Section

Comments by the Founder

A TIMELY SURVEY

Dr. Max Thorek

It is true that in our literature descriptive of the Congress we have emphasized the eminence of the surgeons and the scientists who are coming from all the sections of the North American Federation and from Europe, Asia and South America to present the main addresses. Likewise we have stressed the academic and professional achievements of the officers of the College and of the chairmen of the various committees, who in spite of weighty and arduous personal and professional responsibilities are laboring long and hard over the numerous minute details that make up a magnificent whole—a Congress of the International College of Surgeons. These men, so generous of their time and effort in the service of the College, deserve all the appreciation and all the acclaim that we assign to them.

Who can measure our debt of gratitude to **Edward Compere**, president of the United States Section and secretary of the North American Federation, who in addition to these and other vast commitments of his busy life is taking great pains as secretary of the orthopedic section to make its sessions a series of outstanding events in a Congress constituted of outstanding events?

And who can fully express what we owe to **Peter Rosi**, chairman of the general program committee, for the endless chain of tasks he began so many months ago? Even now as I write these comments he is still busy verifying this, smoothing out that.

I single out these two—Compere and Rosi—for mention, but I have in mind the president of every constituent section of the Federation and the chairman of every committee. And I am not so naive in College affairs as not to know full well that often it is that noble and self-effacing tribe of secretaries (After all I am secretary general of the College!) that does the least glamorous but perhaps the most essential share of the work.

So right along with the presidents and the chairmen I salute the secretaries of the sections and of the committees and extend to them our heart's thanks—*pour mérite!*

It is just, after all, that we praise our famous men, not for their fame alone, nor even for their professional accomplishments and proficiency, of which their fame is but an aura, but also for their service and devotion through the College to all of us.

For in the International College of Surgeons it is not the dweller on the mountaintop of science or of surgery who is our main concern, nor is a College Congress an austere meeting at the summit. The College is a teaching institution, its membership is a democracy and the Congress a meeting of minds through which we all learn.

So I welcome with the same heartfelt warmth and enthusiasm each and every congressist—from the distinguished president of the International College of Surgeons, **Henry W. Meyerding**, to the youngest surgical resident.

The Congress is for all of us. Each of us is essential to its success and to its service to surgery. I am confident that in each of us, in the youngest surgical resident as well as in the most distinguished master of our science and our profession, there burns the divine flame of devotion, self-sacrifice and service through surgery to the welfare of humanity.

We are well come indeed to this Congress where together we gather knowledge and strength and arm ourselves anew for the battle we are ever waging against death and disease.

Let us, each one of us, profit from everything the Congress has to offer. Let us attend the sessions that are within our sphere of direct interest and participate to the full. Let us all also, whenever possible, attend some sessions where the subject is only peripheral to our work, for it is frequently through such enlargement of experience that much enlightenment comes to us. (An occasional change of focus is salutary.) Let us crowd the session rooms. That is what we are here for.

And while we are here together, let us take a long look forward to the Twelfth Biennial International Congress to take place in Rome, Italy, May 15-18, 1960.

Prof. Dr. Pietro Valdoni, president of the Italian Section and of the Congress, has asked me to extend to every member of the College an urgent invitation to come to Rome in May that we may stage there a great International Congress in the splendid tradition of the College.

Let us therefore enjoy our present meeting and make definite plans to meet again at the International Congress come next May in Rome.

Max Thorek

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Twelfth Biennial International Congress

INTERNATIONAL COLLEGE OF SURGEONS

May 15-18, 1960 **Rome, Italy**

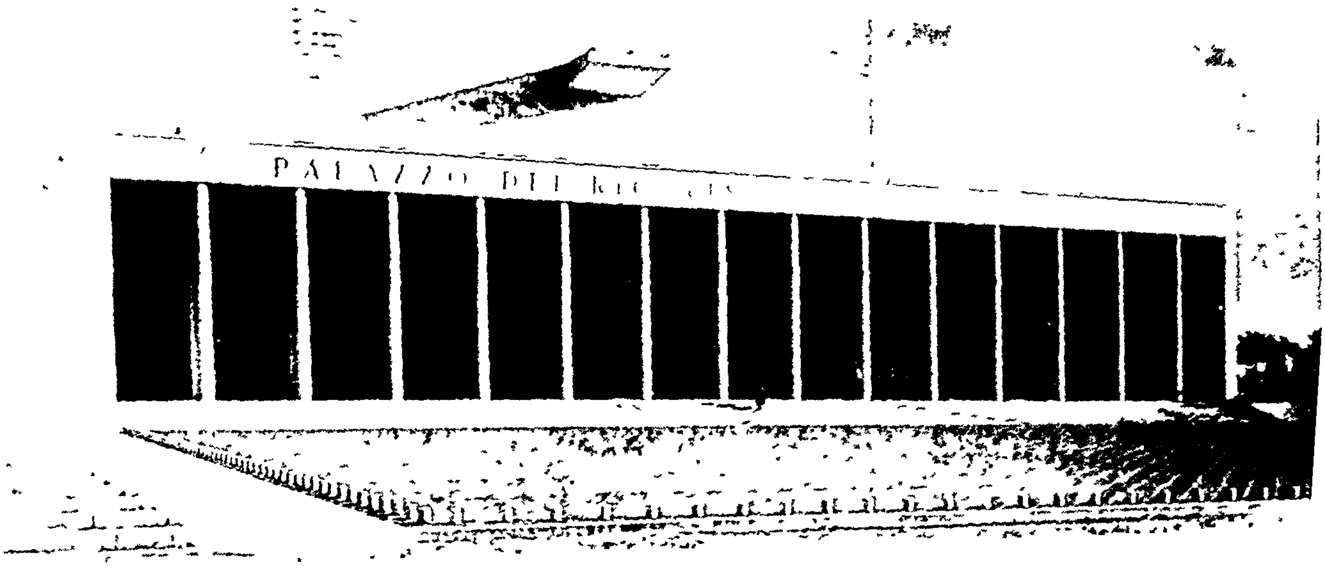
September is none too early to begin to think of May if May is to mean for members of the International College of Surgeons and their families Rome and Italy and the Twelfth Biennial International Congress of the International College of Surgeons.

That the Congress will be an epoch-making event in the world of surgery is certain. Plans are afoot to bring to Rome the world's greatest exponents of surgical science and practice and to offer to surgeons an unprecedented panorama of surgical and scientific achievement.

The sessions of the Congress and the exhibits will be housed in the magnificent new *Palazzo dei Ricevimenti e dei Congressi* (Palace of Receptions and Congresses).

The *Palazzo* has an enormous auditorium, an exhibition hall and reception center, all equipped with the most modern facilities for public address, dramatic lighting effects, good visibility and every comfort and convenience that has ever been devised. The setting is beautiful and the site easily reached.

And Rome, both the modern city and the monuments of its long history, cannot of course be equaled in interest and beauty.



Congress Meeting Place

The Congress and Rome beckon irresistibly, and an impulse which cannot be denied impels us to consider the feasibility of making them the central point of a wonderful springtime vacation—a tour perhaps through Europe or parts of it.

The College with the active collaboration of the International Travel Service has worked out, not one tour, but four.

How much time can we really manage to be *away from it all?* Where have we been before? Do we wish to travel far afield or explore a region *in depth?* Do we prefer the beautiful, familiar, well-traveled places or are we curious and adventurous and itching for something new? Or, like most people, do we like a bit of this and a bit of that?

These are the questions we ask ourselves, and depending on our answers we make our choice.

The Roads to Rome and Back

Tour I: A twenty-one-day tour leading direct to Rome from New York on May 14. After the Congress it allows for visits to Munich, Lucerne, Paris, Amsterdam and London and returns to New York on June 3.

Tour II: A thirty-five-day tour that leaves New York on May 6 for Paris and goes to Nice along the French and Italian Riviera to Rome. After the Congress it continues through Naples, Sorrento and Capri to Florence and Venice, covering all the best of Italy. From Venice it goes on to Stresa, Lucerne, Heidelberg, Frankfurt, including a Rhine cruise to Coblenz, and on to Amsterdam. And then to London and from there to New York on June 8.

Tour III: A thirty-seven-day tour that touches upon Portugal and Spain. It leaves New York on May 5 for Lisbon, then goes on to Madrid and carries the tourists along the French Riviera until Congress time in Rome. After the Congress, it leads to Florence and Venice and then into Austria and its Tyrolean atmosphere at Innsbruck, to Salzburg, Munich, Heidelberg and Frankfurt. It includes the Rhine cruise and visits to Paris and London. Return flight to New York is on June 10.

Tour IV: A forty-day tour that leaves New York on Sunday, May 14, goes direct to the Congress in Rome, and, following it, takes the fascinating route to Vienna and from there to Moscow and Leningrad. Then it moves westward through Helsinki, Stockholm, Oslo and Copenhagen, all in the northern midsummer-day weather, goes on to Glasgow and Dublin, and then returns to New York on June 21.

Postgraduate Courses and Conferences

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DIRECTOR

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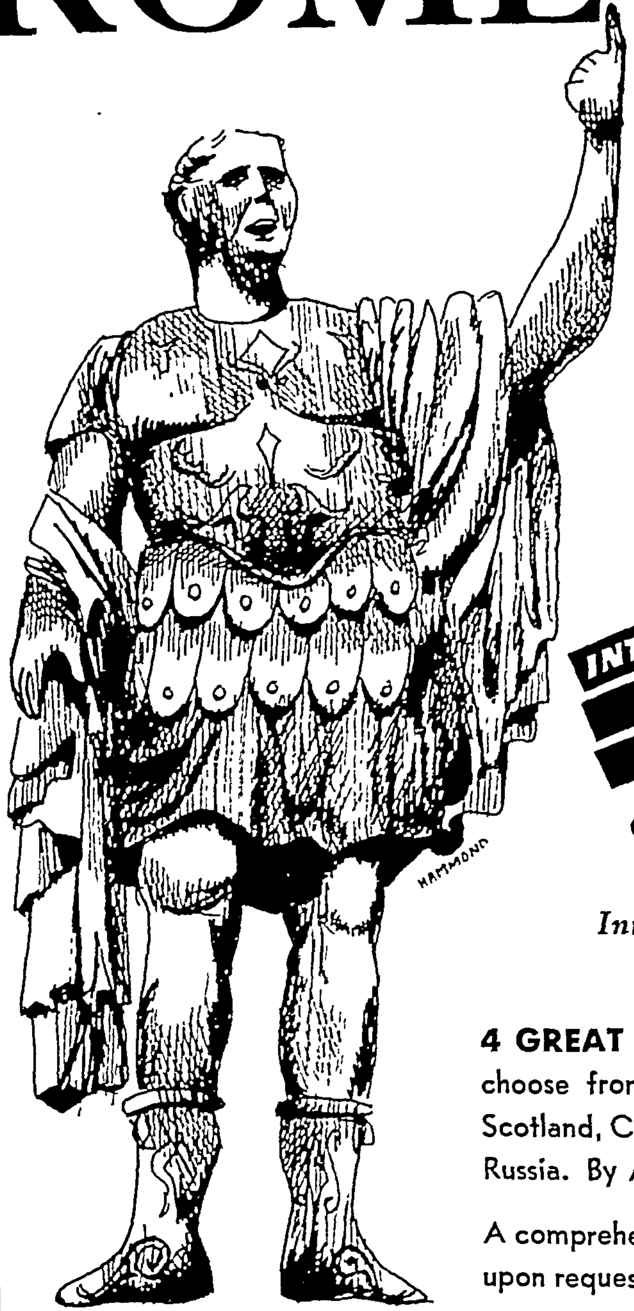

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850 WEST IRVING PARK ROAD
CHICAGO 13, ILLINOIS

Re: Membership Directory

Dear Doctor:

We are preparing a Directory of the membership of the International College of Surgeons in the United States and the rest of the world. This will include also the Constitution and Bylaws of the College, information on qualifications for membership, a description of the activities of the College, as well as a full list of members, alphabetically and regionally arranged, with pertinent information about each member.

The publication of this Directory will entail an expense to the College of between 25 and 30 thousand dollars. The material is now being prepared for the printers, and we are soliciting your subscription for a copy of this handy and informative volume.

The pre-publication price for a copy of this important book is $5.50 — after publication $7.50.

We would appreciate your cooperation. Please return the attached subscription blank in the enclosed self-addressed envelope, and oblige

Yours sincerely,

PUBLICATIONS COMMITTEE
INTERNATIONAL COLLEGE OF SURGEONS

Dr. Max Thorek, Editor

- -

Directory Department
International College of Surgeons
1516 Lake Shore Drive
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THE PRESIDENT'S MESSAGE

Why an International College of Surgeons

Dr. Edward L. Compere

I have been asked frequently, usually by some surgeon friend who is not a member of the International College of Surgeons:

"Why is there any need for an International College of Surgeons?"

This is a question which I am always happy to answer. Physicians and surgeons in every country and every clime, of every color and every race, and of every religious belief, have accepted a very high moral and professional code which is modeled to a great extent after the Oath of Hippocrates. In most countries the Oath of Hippocrates is administered to the young physician who is just being licensed to practice. Those who read the Oath of Hippocrates with sincerity of heart and spirit and who pledge themselves to try to live up to the principles that are laid down will be interested in trying to share their knowledge with, and help to create friendship and understanding among, physicians and surgeons in all of the countries around the world. This can be best accomplished by personally becoming acquainted with as many physicians and surgeons in as many countries as is possible. While the printed word carries a great deal of influence and through the printed word knowledge can be spread and information can be recorded permanently, there is no way in which doctors can come really to know each other and to appreciate and understand each other except by meeting and exchanging ideas.

The International College of Surgeons has created a climate in which surgeons in sixty-three countries around the world have, by becoming members of the College and pledging themselves to the high ideals established by the College, become brothers in a great international fraternity. This has been emphasized over and over again by those of the College who have traveled widely and who have been greeted warmly by the members of the College in the various countries they have visited. Thus the World Clinical Tour, which is sponsored by the International College of Surgeons, has been of the greatest value to the travelers as well as to the host surgeons. Surgical technics and new discoveries which make surgery safer and more effective are made known to the surgeons of the countries visited, while those who are on the Tour are privileged to observe the surgical procedures which have been developed by our colleagues.

An official of the State Department in Washington has emphatically declared that it was his opinion that no organization provides a better medium for creating friendship and good will among the people of the various races and nationalities of the world than the International College of Surgeons. The physicians and surgeons speak a scientific language which is understood by all. Thus, the International College of Surgeons not only aids in the spread of knowledge which is helpful to surgeons and their patients in various countries, but it is also a means of promoting good will, and hence can advance world peace, a cause to which President Eisenhower, Vice-President Nixon and other leaders in our government, of both political parties, pledge their fullest support.

Surgical Residents

At the time I write this message, more than six thousand special invitations to attend the International College of Surgeons meeting in Chicago in September, in the form of a personal letter from the president of the United States Section, are being mailed from our office in Chicago to surgical residents, including residents in the various surgical specialties and in roentgenology and anesthesiology. This invitation is in line with one of the primary purposes of the International College of Surgeons, which is to promote the teaching of surgery and surgical ideals and principles. Especially are we committed to this great task of aiding the scientific growth of younger surgeons who are still in training as residents and fellows.

Junior Membership

Please inform your residents that any surgical resident in an approved training program is eligible to apply for Junior Membership in the International College of Surgeons. Junior members are not required to pay initiation fees or dues. They must submit evidence of the fact that they are graduates of a class A medical school and that they are preparing themselves through accredited residency training programs to become board certified surgeons. As Junior Members they will be novices on the way to becoming Qualified Fellows of the College. Junior Members are eligible to compete for the awards which are offered by the International College through the Scholarship and Educational Committee, of which **Dr. Horace E. Turner** is Chairman. Any surgical resident who is doing research should submit his paper for consideration by the Committee. An award of three hundred dollars is offered for the best paper submitted. Papers of residents selected to be read at an annual meeting of the College will entitle the author to a trip to the annual meeting, wherever it may be, with all expenses paid.

Ten professors of surgery in ten different medical centers have been asked to nominate a resident to be a special guest of the College at the meeting of the North American Federation of the International College of Surgeons. Each resident so nominated has been personally invited by me and will be entertained as my personal guest during the meeting. Because a very generous anonymous donor presented Dr. Horace Turner with a check for this purpose, all expenses of each of the ten residents will be paid by the College.

Death Takes Two Distinguished Fellows of the College

We bear, as we meet at this Congress, a double sorrow because of the death of Dr. Arthur Steindler, vice-president of the College and regent in Iowa, and Dr. Clement L. Martin, treasurer of the United States Section.

Dr. Martin's dedication to his profession and to the International College of Surgeons was very deep, but over and above all that, I feel keenly the loss of a personal friend, loyal, sincere and honorable.

Dr. Steindler was my good friend and counselor for thirty years. The orthopedic sessions of the International Congress of the College in Los Angeles last year were designated in his honor. The participants were among the eminent surgeons of the world, and each made his presentation in a spirit of tribute to this wonderful man, who was a scientist, teacher, and one of the greatest orthopedic surgeons that the world has ever known.

The spirit and the memories of Clement Martin and Arthur Steindler will still be with us to strengthen our hearts and help us to be better physicians and surgeons in the years to come.

Edward L. Compere

News Briefs

Dr. Curtice Rosser
F.A.C.S., F.I.C.S.

DR. CURTICE ROSSER HONORED BY PROCTOLOGIC SOCIETY

Dr. Curtice Rosser, F.A.C.S., F.I.C.S., of Dallas, Texas, past-president of the United States Section of the International College of Surgeons, was elected to Honorary Fellowship in the American Proctologic Society at its annual meeting this year in Atlantic City.

The citation read that the honor is reserved for doctors who have made the most outstanding contributions in the field of proctology and the Society was taking this means of acknowledging and expressing its gratitude for the work Dr. Rosser had done and was doing to advance this specialized field of surgery.

LETTER FROM SWEDEN

Dr. Francis M. Howard of Chicago, currently the holder of one of the International College of Surgeons' postgraduate study awards, is in Sweden studying surgery of the hand with **Dr. Eric Moberg** of Göteborg.

In a letter to **Dr. Horace E. Turner**, chairman of the scholarship committee of the United States Section of the International College of Surgeons, Dr. Howard expresses his gratitude to the committee, which chose him as the recipient of the award, and to the Woman's Auxiliary to the United States Section, which through its dues makes the scholarship program possible.

Dr. Howard is appreciative of the privilege of studying with Dr. Moberg. He has an excellent opportunity to observe numerous cases of extensive and complicated injuries involving the hand and to do some of the work himself. Of Dr. Moberg he says he is a dedicated surgeon, the dean of hand surgeons in Scandinavia, who has been able, because the national law demands frequent re-evaluation of injuries for the purpose of determining compensation, to accumulate important data and provide valuable follow-up care. He has written extensively and is devoted to teaching.

Dr. Howard and his young family live in a large sturdy farmhouse on the estate of **Dr. Sven Sjellberg**, professor of radiology. The house is only fifty yards from Lake Murin, and the Howards are very happy about the whole thing.

INTERNATIONAL AWARDS FOR FILM EXCELLENCE TO DR. VON LEDEN

Two international awards for excellence have been presented to **Dr. Hans V. Von Leden**, F.I.C.S., assistant professor of otolaryngology, and **Paul Moore**, lecturer in the same department, of Northwestern University, Evanston, Illinois. The film *The Larynx and Voice—Laryngeal Physiology Under Daily Stress*, was one of three hundred and twenty entries in the Fourth International Review of Scientific

Films held in Rome, and was awarded the gold medal of the Italian Red Cross.

It also won conspicuous recognition at the Third International Review for Scientific Education at the University of Padua under the sponsorship of the film festival held in Venice.

Dr. Neal Owens
F.A.C.S., F.I.C.S.

DR. OWENS HONORED BY SIGMA CHI FRATERNITY

Dr. Neal Owens, F.A.C.S., F.I.C.S., D.A.B., of New Orleans, Louisiana, chairman of the Plastic and Reconstructive Surgery division of the United States Section of the International College of Surgeons, was awarded a *Significant Sig* medal by Sigma Chi Fraternity at its Grand Chapter Banquet, June 20, 1959, in Kansas City, Missouri.

The fraternity each year selects outstanding members throughout the country who are considered distinguished citizens and whose professional, civic and humanitarian activities have brought honor and prestige to Sigma Chi. To each of these chosen few the fraternity presents a citation and a medal commemorative of the occasion.

Dr. Owens is Omicron Omicron Chicago 1922 and Iota Iota Alabama 1924.

Dr. Percival Bailey
F.I.C.S. (Hon.)

PERCIVAL BAILEY DIRECTS PSYCHIATRIC INSTITUTE

Dr. Percival Bailey, F.I.C.S. (Hon.), of Chicago, has left the University of Illinois Medical School, where he held the chairs of neurology and neurologic surgery, to become full-time director of research at the new Illinois State Psychiatric Institute in the West Side Medical Center of Chicago.

Dr. Otto L. Bettag, F.I.C.S., director of the Illinois Department of Public Welfare, looks to the Institute as a pathfinder in cooperative research and education. The structure is eleven stories high. Seven stories will be used for patient care. Each of Chicago's five medical schools will operate a floor in cooperation with the state, as will Michael Reese Hospital's Institute for Psychosomatic Research and the State Welfare Department.

Only selected cases, which will be screened first at other hospitals, will be handled at the Institute and studies will be organized that may be helpful in furthering improvement in the care and treatment of the mentally ill.

The educational department, headed by Dr. Jules Masserman, of Northwestern University, will conduct a training program for over thirty resident physicians and offer courses for psychiatric nurses, psychologists, social workers and therapists.

DR. BENJAMIN SPECTOR PARTICIPANT IN MEDICO-LEGAL CONFERENCE

Dr. Benjamin Spector, F.I.C.S., of Boston, Massachusetts, professor and chairman of the department of bioanatomy and professor of the history of medicine at Tufts University School of Medicine, participated in the National Conference on the Legal Environment of Medical Science held at Billings Memorial Hospital in Chicago May 27-28, 1959.

Dr. Spector served as a member of the planning committee and as a recorder of the group session which concerned itself with the legal aspects of the use of cadavers, organ transplants and autopsy procedures.

DR. ALBERT P. SELTZER HONORED

Dr. Albert P. Seltzer
F.A.C.S., F.I.C.S.

The Philadelphia County Council of Veterans of Foreign Wars honored Dr. Albert P. Seltzer, F.A.C.S., F.I.C.S., D.A.B., of Philadelphia, Pennsylvania, for the contribution of his services in caring for a child whose face had been slashed so that it required extensive plastic surgery. The child is eight-year-old Deborah Poisson, and her face is now in excellent condition. Dr. Seltzer, however, intends in time to do additional reconstructive work. Both Dr. Seltzer and his patient were guests of honor at a dinner at which Dr. Seltzer was decorated by the Council as Man of the Year.

Dr. Seltzer is associate professor of otolaryngology at the Graduate School of Medicine, University of Pennsylvania; chief of otolaryngology at the Philadelphia General Hospital; attending associate at Albert Einstein Medical Center, and chief of plastic surgery at St. Luke's and Children's Medical Center.

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HIGHLIGHTS OF NEW YORK STATE SPRING MEETING

The four-day meeting of the New York State Section of the International College of Surgeons was held at the Concord Hotel, Kiamesha Lake, May 28-31, 1959.

The scientific program, with fifty-eight participants, was most successful. A warm opening address of welcome was made by **Dr. Horace E. Ayers**, New York City, regent of New York State. **Dr. Ross T. McIntire**, executive director of the International College of Surgeons, expertly participated in the panel on reconstructive surgery. **Dr. Edward L. Compere**, president of the United States Section, skillfully moderated a panel on the management of patients with multiple injuries.

Great interest was shown in the absorbing paper on bioatomic medicine and civil defense which was presented by New York State Section president, **Dr. Edwin J. Grace.**

Dr. James P. Fleming, president-elect of the New York Section, adroitly moderated the panel on problems in proctology. **Dr. Lindon Seed** of Chicago moderated the panel on the treatment of thyroid diseases.

The New York State Section was honored to have many Fellows of the College from other states as participants in the scientific program. Among them, in addition to those already mentioned, were: **Dr. Ralph R. Coffey**, Kansas City, Missouri; **Dr. Gilbert F. Douglas**, Birmingham, Alabama; **Dr. Earl J. Halligan**, Jersey City, New Jersey; **Dr. Stephen D. Lo Verme**, East Orange, New Jersey; **Dr. Louis Perkel**, Jersey City, New Jersey; **Dr. Ernest F. Purcell**, Trenton, New Jersey; **Dr. Louis P. River**, Oak Park, Illinois, and **Dr. James W. Watts**, Washington, D.C.

Dr. Magin Sagarra, chairman of the medical motion picture committee, and his co-workers succeeded in obtaining and presenting fifteen timely films that covered interesting surgical technics.

Ellen, Faith and Paula

The women's reception committee, under the chairmanship of **Mrs. Magin Sagarra**, New York City, with **Mrs. Henry P. Leis, Jr.**, Whitestone, New York, and **Mrs. John G. Mussio**, Brooklyn, New York, as co-chairmen, arranged a delightful program of entertainment.

A special feature for everyone was Ice Fantasies, a skating exhibition that was performed on two occasions by the daughters of **Dr.** and **Mrs. Edward Kahn**, New York City. The sisters, **Ellen Lee**, thirteen; **Faith Hope**, nine; and **Paula Amy**, six, are members of the Park Figure Skating of New York City, and appeared through the courtesy of the Club.

Some of the golf tournament winners were as follows: **Mrs. Mendillo** won the hole in one contest for women and **Mrs. Ripstein** came in second. **Mrs. Mazzei** won the women's eighteen hole tournament and **Mrs. Compere** came in second. **Dr. Weingarten** won the hole in one contest for men, and **Dr. Friedlander** came in second. **Drs. Mazzei, Patt, Ripstein,** and **Seed** were amongst the winners in the eighteen hole tournament.

Woman's Auxiliary

THE PRESIDENT'S MESSAGE

Mrs. Earl Ingram Carr

Far from singing a requiem for my departure from the *President's Page,* I am disposed to offer instead an overture for Mrs. Park Niceley, who in her capacity as president of the Auxiliary will be filling these pages and carrying out her duties with success and initiative.

In the experience of all who have lived with an office, as I have done during the past year, there is a feeling of satisfaction and pleasure in having been associated intimately with an organization as fine and constructive as is the Auxiliary to the International College of Surgeons.

It is the future, not the past, which holds my interest and there is no limit to the future of the Auxiliary if we have the understanding and the support of the surgeons who are Fellows of the College.

We *must* make clear to the men that seventy-five per cent of our dues goes direct to foreign exchange scholarships, research grants, and to the Hall of Fame.

Needless to reiterate, but I do, the success of our projects depends entirely upon the number of members in the Auxiliary.

I wish very much that during my tenure as president I could have met and visited with more of you. One of the great pleasures of such an office is the opportunity to know and to become acquainted with the fine and constructive women who make up the membership. A special word of greeting goes from me to the fifteen members from without the boundaries of the United States—one from as far away as India. We value your membership indeed.

The spirit of friendliness will be very much in evidence in Chicago, September 13-17, in our Hospitality Room and at all the functions which you will attend. The hope, the ambition, of all of us who are arranging the program for you is that you will gain from these meetings a feeling of satisfaction in the accomplishments of your Auxiliary.

Your officers and members of the board of directors are of unusual calibre. They have been of incalculable value to all of us throughout the year, and to me they have been an inspiration and a gratification. This year has been an experience to treasure, and I am taking with me as I leave the office of president a realization of all that I have gained.

With a quotation from my first article in the *Bulletin,* "Future Unlimited is a phrase which could have been coined for our Auxiliary," I am leaving the *President's Page.* *Ruth Smith Carr*

Journey Into Freedom

EXCERPTS FROM A TWENTIETH CENTURY BIOGRAPHY

PART VI

JOSEPH ANTHONY MALEJKA, M.D.
NEW YORK CITY, NEW YORK

SUMMARY OF PREVIOUS INSTALLMENTS: In Poland, during midsummer of the year 1946, at the age of twenty-one, I sought and finally obtained my parents' permission to leave the country. Five years earlier I had been shipped to Germany as a slave farm laborer. I had escaped to serve for three years in the Polish underground. Now I sought a future elsewhere in the world. I said goodbye to my parents and to my young brother. Together with a boyhood friend whom I here call Henry posing as students on a holiday, I made my way to Zgorlice (Gorlitz) on the river Nisa (Neisse). This was now the Polish-German boundary, and after a near-disastrous attempt to enlist the aid of a Polish soldier, I joined a group of would-be escapees led by a professional smuggler, who, however, demanded more money than I had. Henry and I then explored the Czechoslovakian border at Leszna but found it too well guarded.

Forced by necessity, we returned to Gorlitz and I entrusted my fate to the smuggler. I was intercepted and kept prisoner by a pair of officers, one Polish and the other Russian, while they feuded with the smuggler over money and kept on drinking. The mood became both melodramatic and befuddled, and seemingly contagious, for suddenly I senselessly demanded of the Polish officer that he let me go. To my astonishment he did. The Russian officer offered no objection and the Polish one led me to the bridge and ordered the guard to let me pass. Once across the boundary I found my way to the railroad station and bought a ticket for Dresden.

I entered one of the long Pullmans and sat down in a compartment opposite a young man. It was a cloudy afternoon. Everything seemed heavy, unhurried and gloomy.

How strange is the approach to life, I now thought. I have just risked mine many times to achieve liberty and happiness. And yet my first impression of supposedly free people is that they were walking and acting like the same machines I knew so well in Poland. I don't know quite what I expected to find once across the border, but surely not the same aimless, dull, expressionless plodding of humanity which I now saw on the platform.

The entrance of two persons into the compartment diverted my attention. Quietly they sat down. I was surprised at the air of subdued waiting. I was soon to find out the reason.

Glancing out the window once more, I saw two Russian MP's standing on the platform. It was fifteen minutes to the train's scheduled time of departure.

I was now frankly nervous.

"What do they want?" I asked the young man across from me, and I was careful to keep my voice so low that the others could scarcely hear.

He shrugged.

"You mean the Russians? Nothing. They just look at the passengers' papers. They'll be in any moment now. It is of no importance."

"What if a passenger does not have papers?" I asked.

He studied me for a moment.

"It is just too bad," he answered.

It was now my turn to look at him for a long moment. Then I made my decision.

"I have none," I said.

The Russians were now entering our Pullman car.

"Go quickly," my new-found friend whispered, "out into the corridor. Stand at the window. Perhaps the Russians will pass you by."

Getting up at once, I moved into the corridor and stood looking out through the open window. I now made a great fuss about requesting a drink from the vendors on the platform. And all the while I could hear the Russian MP moving from compartment to compartment.

"Papers, please," he demanded over and over.

Was I to be caught now after having gone through so much to get this far?

"Papers, please," I heard the Russian droning in the compartment next to the one which I had left.

I intensified my efforts to achieve a drink of water. Then, hearing the Russian approach, I turned and flattened myself against the side of the corridor. I excused myself, in Russian, for blocking the passage and immediately turned once more to resume my efforts to get a drink of water.

I now heard the Russian MP entering my compartment demanding, as always, "Papers, please," and now I took a step of desperation. I sidled into the compartment which he had just left. God was with me, for there was an empty seat. I sat down. The others in the compartment paid little attention to me. In terror, I listened as the Russian officer finished his inspection next door. Would he remember the boy obsequiously bowing in the corridor and apologizing for blocking the passageway? After an agonizing period of time I had my answer. No, he was moving on down the corridor.

In a few moments the train was moving. And I sat there, drained of all emotion, with strength only to say silent thanks to God.

After a long time, I moved back into my original compartment, where I had left my bag. My new friend looked up and smiled with delight.

"You are lucky," he said softly.

"Yes," I replied with all my heart, "I am lucky. And I give you my thanks." I now offered him an American cigarette as a very small token of my appreciation.

He looked at me in surprise. "You need them," he said.

"Yes," I replied, "I will need them. But I do not smoke myself. Please take one."

He accepted and for a long moment he fondled the cigarette as one might caress a valuable jewel. Watching, I couldn't help but wonder. Yes, I had achieved, if one judged by boundaries alone, my goal of freedom. But was this freedom to be measured by the materialistic approach to an American cigarette?

Little did I know at this time that if I had been caught by American MP's without my papers and with these cigarettes I should have been shipped back to Poland immediately not only as an escapee but also as a black marketeer. And little did I know that these cigarettes would eventually open up my entire future.

Now I could only sit there in the train and marvel at my own good fortune at having got this far and at my new German friend's delight in smoking the cigarette I had given him.

"What next?" I wondered.

THE END

Dr. Joseph Anthony Malejka, now a third-year surgical resident at Beekman-Downtown Hospital in New York City, was the recipient of the 1956-1957 international scholarship offered by the Woman's Auxiliary to the United States Section of the International College of Surgeons.

Section News

ARGENTINA

At dinner between sessions of Argentine Section: Mrs. R. Goyenechea; Dr. Oscar Blanchard, treasurer; Mrs. J. A. Taiana; Dr. Roberto Goyenechea, secretary; Mrs. O. Blanchard; Dr. Jorge A. Taiana, president, and Dr. Victorio Aracama Zorraquin, vice-president

The Argentine Section of the International College of Surgeons recently held its elections and chose the following officers:

Dr. Jorge A. Taiana
PRESIDENT
Dr. Victorio A. Aracama Zorraquin
FIRST VICE-PRESIDENT
Dr. Carlos P. de Nicola
SECOND VICE-PRESIDENT
Dr. Roberto A. Goyenechea
SECRETARY
Dr. Manuel B. Galea
RECORDING SECRETARY
Dr. Oscar Blanchard
TREASURER

The Section has also sent to its members, over the signatures of its officers, two letters, which are reprinted here.

Distinguido colega:

El nuevo Consejo Ejecutivo de la Sección Argentina del International College of Surgeons inicia sus actividades con esta carta dirigida a todos los Miembros Titulares y Asociados.

Consideramos necesario y oportuno establecer un vínculo periódico con colegas dispersos en los más remotos lugares de la República, pero unidos por objetivos comunes: el progreso de la cirugía y la unión de clase la médica.

El International College of Surgeons, organización de una vastedad realmente mundial, prepara el XII Congreso Internacional de Cirugía para el mes de mayo de 1960 en Roma, Italia. Presiderá este gigantesco evento científico el Dr. Pietro Valdoni, Profesor Titular de Clínica Quirúrgica de la Universidad de Roma y acturá como Secretario el Dr. Bendandi. El Congreso tendrá las características de amplitud que evidenciaron los anteriores, especialmente los efectuados en Buenos Aires, año 1950 y en Madrid, año 1952. Todas las especialidades quirúrgicas tendrán cabida y los temas más amplios encontrarán lugar en sus asambleas

generales. Además, se organizarán "symposium" sobre temas de actualidad elegidos entre las sugestiones recibidas de todas las Secciones que integran el Colegio.

Recomendamos a los colegas que desean concurrir a Roma transmitan a la Secretaría de la Sección Argentina el título de sus trabajos o comunicaciones. Las reservas de hoteles conviene hacerlas con suficiente antelación por la existencia de otros Congreesos y el desarrollo de los Juegos Olímpicos Internacionales en el mismo año y también en la ciudad de Roma.

El Journal del International College of Surgeons, con su extraordinario tiraje, constituye un valioso instrumento de enseñanza quirúrgica y un medio para que los cirujanos argentinos publiquen sus mejores trabajos, en español o inglés, proporcionándoles a los mismo una difusión mundial. Las colaboraciones para el Journal deben ser remitidas a nuestra Secretaría, donde los colegas encontrarán asesoramiento en materia de presentación, esquemas, dibujos, fotografías y traducciones. Con respecto a estas últimas el International College of Surgeons posee conexiones con Excerpta Médica Foundation, Amsterdam, Holanda, que realiza traducciones del español al inglés de acuerdo a precios preestablecidos.

El Bulletin del Journal, informa sobre las actividades del Colegio y de sus diversas Secciones. Los médicos argentinos pueden referir a esta Secretaría las diversas actividades científicas: cursos, conferencias, reuniones, ateneos, etc., para facilitar al Bulletin la información pertinente. Las actividades ilustradas con fotografías adquieren mayor interés informativo.

Cada uno de los Miembros Titulares tiene derecho a un diploma del International College of Surgeons, firmado por el Presidente y el Secretario General Permanente del Colegio, y por el Presidente y Secretario de la Sección Argentina. Muchos miembros no han solicitado todavía la elaboración de su diploma. El Consejo Ejecutivo espera que todos posean el testimonio que los acredita como Fellows del International College of Surgeons.

El Hall de la Fama en Chicago constituye un recinto de extraordinaria significación para la historia de la medicina y en particular de la cirugía. La Sala Argentina exhibe el nombre de los mas ilustres cirujanos y algunos libros, instrumentos y aparatos creados por el talento y la ciencia de los argentinos. Esperamos nuevas contribuciones: manuscritos, fotografías, instrumentos originales u obras artísticas que de algún modo recuerden y fijen el esfuerzo, la inventiva y la genialidad de nuestros maestros.

Esta primera carta pretende establecer un nexo informativo y algo más: Ansía desarrollar un sentido de confraternidad médica, un estímulo para el estudio y el progreso, un aliado en la defensa de nuestra profesión. Con amistad y amor se construyen y reconstruyen las obras eternas de la humanidad.

Estimado colega:

Por segunda vez este Consejo Ejecutivo tiene el agrado de establecer un contacto epistolar con los Miembros de la Sección Argentina del International College of Surgeons.

El Colegio desarrolla una actividad realmente mundial. Es Miembro Fundador de la World Medical Association y Miembro del Consejo para Coordinación de Congresos Internacionales de las Ciencias Médicas.

Existen Secciones organizadas en 63 Naciones y el número de miembros sobrepasa los 13.000.

Ofrece becas y nombramientos de Residentes en diversos hospitales de Estados Unidos y Europa.

Auspicia cursos para graduados en muchas partes del mundo, incluso cursos clínicos anuales alrededor del globo. El próximo se extenderá desde New York, Amsterdam, Copenague, Oslo, Estocolmo, Helsinki, Leningrado, Moscú. Vienna, Munich, París, desde el 17 de julio hasta el 26 de agosto de 1959. Actuará como Coordinador el Dr. Ross T. Mc Intire.

Inmediatamente seguirá otro desde San Francisco, Hawai, Japón, Hong-Kong, Tailandia, India, Ceylán, Egipto, Líbano, Jordania, Israel, Turquía, Grecia, desda el 10 de octubre hasta el 30 de noviembre. Como Coordinador actuara el cirujano ortopedista y traumatólogo Dr. Edward Compere.

El Colegio ofrece credenciales que abren las puertas a sus miembros en hospitales, clínicas y escuelas médicas en todos los continentes.

El Hall Internacional de la Fama y la Escuela de la Historia de la Cirugía y Ciencias correlacionadas en Chicago, constituyen una obra excepcional por su magnitud y significación histórica.

El International College of Surgeons está enteramente dedicado a fines humanitarios, sin exclusión de raza, credo o color.

Publicaciones Científicas.

El Journal y el Boletín publicados mensualmente proveen una tribuna a todos los cirujanos del mundo.

Congresos.

Los Congresos y "meetings" locales o internacionales vinculan y propenden al progreso de la cirugía.

El Vigésimo Cuarto Congreso de la Federación Norteamericana (Canadá, Méjico, Estados Unidos y Secciones de América Central) se reunirán en Chicago, Illinois, del 13 al 17 de septiembre de 1959.

Las Jornadas Científicas de Guayaquil se desarrollarán, con motivo de la inauguración de la Sección Ecuatoriana del Colegio, del 30 de septiembre al 5 de octubre de 1959.

Importantes avances se operan en la organización del XII Congreso Internacional de Roma, Italia, 15-18 mayo de 1960.

Durante ese año 1960, están anunciados los siguientes Congresos:

Congreso Internacional de Gastroenterología. VI Meeting de la Asociación de la Sociedad Nacional, Europa, 20-24 de abril, Leiden, Holanda.

Noveno Congreso Internacional de Broncoesofagología, organizado por la Sociedad Internacional de Broncoesofagología. 4 de septiembre, Roma, Italia.

Guía del Colegio.

El Colegio ha remitido a cada uno de los Miembros un formulario con el propósito de incluir el nombre, cargos y características más importantes en una guía o Directory cuya elaboración está en marcha. Se insta a los miembros a enviarla a la Secretaría de la Sección Argentina, Junín 1254, Buenos Aires o directamente a Directory Department, International College of Surgeons. 1516 Lake Shore Drive, Chicago, Ill. U. S. A.

Aquellos colegas que no hayan recibido el formulario pueden solicitarlo a la Secretaría de la Sección Argentina.

Cirugía Cardiovascular.

La Fundación A. Sahio, para Diagnóstico y Tratamiento de Enfermedades del Corazón, Bogotá, Colombia, prepara una importante reunión con participación de eminentes figuras americanas y europeas, para el mes de julio de 1959.

En diversos "Symposiums" se tratarán temas concernientes al "Diagnóstico y tratamiento de las cardiopatías congénitas," "Aneurismas de la aorta," "Circulación extra corpórea. Hipotermia," "Enfermedades valvulares adquiridas," "Enfermedad coronaria," etc.

Las preguntas podrán formularse por escrito y así podrán intervenir de una manera epistolar colegas imposibilitados de concurrir.

Trabajos Científicos Argentinos.

Invitamos a los Miembros del Colegio a publicar sus trabajos originales en el Journal, con el propósito de darles una justa y merecida difusión internacional, a las investigaciones, técnicas y experiencias argentinas.

Saludamos a Ud. muy atte.

BRAZIL

Brazilian Section to Hold Annual Congress

The Brazilian Section of the International College of Surgeons will hold its 1959 Congress, October 18-24, in the city of Poços de Caldas.

The Section extends a cordial invitation not only to the members of all the Regional Divisions of the Brazilian Section but to all the Fellows of the College.

The program will be varied and concern itself with numerous aspects of surgery.

Three topics will be formally considered:

Technical Problems Faced by the Inland City Surgeon (Organization of Standard Regional Services).

Development and Training of the Surgeon.

Similarity Between Billroth's Technics I and II in the Treatment of Gastroduodenal Ulcer.

Round-table discussions will center upon the following:

Anesthesia in Thoracic Surgery.

Carcinoma of the Bladder.

Surgery of Aneurysm of the Aorta.

A conference will be held on the subject of **Spondylarthrocace.**

Opportunity will be given for the presentation of free themes, and a program of scientific films will be shown.

There will be scientific exhibits and exhibits of hospital equipment and pharmaceuticals.

In addition, a program of social activities is being planned for the congressists and for their ladies.

Those interested are asked to write to:

Secretary of the Congress
Rua Dona, Veridinna 661
São Paulo, Brazil

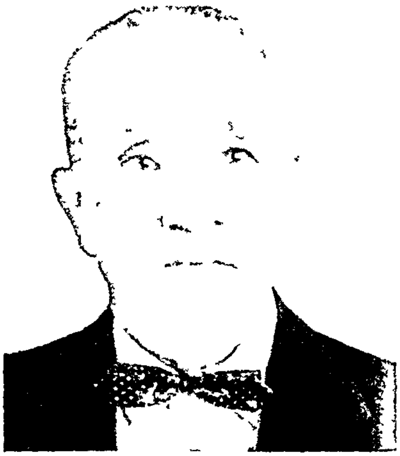
ECUADOR

Dr. Aquiles Rigail Honored at Banquet Session

The Ecuadorian Section of the International College of Surgeons held its first banquet session on May 19, 1959, in Guayaquil, honored by the presence of the president of the republic, the governor of the province, and ministers of state.

The session was addressed by the president of the section, **Dr. Teodoro Maldonado Carbo,** distinguished pioneering surgical chief of the Luis Vernaza Hospital of Guayaquil, who gave a brilliant account of the aims and accomplishments of the International College of Surgeons and of the circumstances surrounding the founding of the Ecuadorian Section.

Dr. Teodoro Maldonado Carbo
President
Ecuadorian Section



Dr. Aquiles Rigail
F.I.C.S.

Another interesting feature of the occasion was the conferring of a governmental decoration of merit upon **Dr. Aquiles Rigail**, one of the founders of the Ecuadorian Section. The decoration was presented personally by **His Excellency Dr. Camilo Ponce**, president of the Republic of Ecuador, in recognition of Dr. Rigail's fifty years of service to his profession.

Formal Inaugural Meeting To Attract Visitors

The Ecuadorian Section is making definite plans for its formal inaugural meeting September 30-October 4.

Distinguished guests are expected from Central and South American sections. The United States Section will be formally represented by **Dr. Harry E. Bacon** and **Dr. Alexander Brunschwig**, high ranking officers of the Section, as well as by other Fellows of the College.

Ecuadorians to Attend Federation Congress

At least five members of the Ecuadorian Section are planning to attend the North American Federation Congress.

They are: **Dr. José Ramírez Dueñas, Dr. Francisco Rizzo, Dr. Fernando Gutierrez, Dr. Fidel Miranda** and **Dr. Fernando Vargas.**

Left to right: Dr. Francisco Rizzo Velasco, treasurer of the Section; Dr. José Ramírez Dueñas, vice-president; Dr. Eduardo Ortega Moreira, president-elect; Dr. Gonzalo Diez, minister of defense, and Dr. Camilo Ponce, president of the Republic of Ecuador

GREECE

KING OF THE HELLENES HONORS FOUNDER OF INTERNATIONAL COLLEGE OF SURGEONS

His majesty the King of the Hellenes has bestowed the decoration of the Gold Cross of the Royal Order of the Phoenix upon Dr. Max Thorek, founder of the International College of Surgeons. The formal presentation will be made in Chicago by Mr. A. K. Papadopoulos, consul of Greece.

Meanwhile, letters and messages of congratulations in the hundreds are reaching Dr. Thorek, who begs to express to his friends and wellwishers his sincere gratitude for their thoughtfulness.

PERU

PROFESSOR GRANA ADDRESSES NATIONAL CONGRESS

The Peruvian Section of the International College of Surgeons held its annual meeting on April 15 in Lima, Peru.

The papers presented were exceedingly interesting and scientifically important.

Prof. Dr. Francisco Graña, former president of the International College of Surgeons, who is now serving as president of the Peruvian Section, delivered the presidential address.

He analyzed the status of the Peruvian Section within the framework of the South American Federation of the International College of Surgeons and spoke of his fervent desire to see a great South American Federation Congress of the College take place soon.

Prof. Graña also announced that the Peruvian Section would sponsor the attendance by a member of the Section at the Congress to be held in Chicago, September 13-17, 1959, for the purpose of presenting a paper and representing the Section in Congress proceedings.

SWITZERLAND

SWISS SECTION INSTALLS NEW PRESIDENT

Dr. E. Kaiser, chief of the surgical section of the *Stadtspital Waid* in Zürich, is the newly elected president of the Swiss Section of the International College of Surgeons.

Dr. E. Kaiser, F.I.C.S.
President
Swiss Section

Dr. Kaiser was born in 1903 in Horgen. He studied in Zürich, and passed his state examinations in 1928. For seven years he did postgraduate work in surgery at hospitals in Naples, Zürich and Männedorf. Gratefully he acknowledges the privilege of having studied under the great master Sauerbruch. In 1935 he served as chief of the *Spital Wädenswil.*

Since that time he has held his present post as chief of the surgical section of the *Stadtspital Waid* in Zürich. He does general surgery, including the surgery of trauma. His research includes the domain of general surgery, but he is particularly devoted to the study of carcinoma of the breast and surgery of the gallbladder and the liver.

In Memoriam

ARTHUR STEINDLER

M.D., F.R.C.S. (Eng. Hon.), F.A.C.S., F.I.C.S. (Hon.)

1878-1959

Arthur Steindler
M.D., F.R.C.S. (Eng. Hon.), F.A.C.S.,
F.I.C.S. (Hon.)

There is a sense of great loss in the International College of Surgeons, and the section on orthopedic surgery is particularly saddened because of the death, on July 21, 1959, of Dr. Arthur Steindler, Honorary Fellow of the College and Honorary Chairman of the orthopedic section.

He will be greatly missed at the Congress, but members will recall with sincere gratification that at the previous Congress—the Eleventh Biennial International in Los Angeles—the session of the section on orthopedic surgery held on Monday, March 10, 1958, was in honor of and dedicated to Dr. Arthur Steindler, Distinguished Service Professor at the State University of Iowa College of Medicine; Professor Extraordinary at the National University of Mexico School of Medicine, and head of orthopedic surgery at Mercy Hospital in Iowa City.

Dr. Steindler was born in Vienna, Austria, and educated in its schools. For two years he studied at the University of Prague and then returned to Vienna. In 1902 he received his doctorate from its Faculty of Medicine.

That year he came to the United States and for three years was associated with Dr. John Ridlon at St. Luke's Hospital in Chicago. From 1910 to 1913 he served as professor of orthopedic surgery at Drake University in Des Moines. In 1913 he became an instructor in orthopedic surgery at the State University of Iowa College of Medicine, and in 1915 was appointed head of its orthopedic department.

Dr. Steindler was a member of numerous medical, surgical and orthopedic organizations and held honorary membership in several United States and foreign societies. He served as president of the American Orthopedic Association and was a corresponding member of the Mexican National Atheneum of Sciences and Arts.

He became a member of the International College of Surgeons in 1947, and was Regent of Iowa. Honorary Fellowship in the College was conferred upon him in 1954.

He was one of the modern world pioneers in scientific orthopedics and an important innovator in orthopedic surgery.

He was a great teacher. He taught a whole generation of students who now are among the acknowledged leaders and teachers of orthopedics and orthopedic surgery.

The entire Fellowship of the International College of Surgeons extends to Mrs. Steindler its very sincere sympathy.

M.T.

In Memoriam

CLEMENT LEON MARTIN

M.D., F.A.C.S., F.I.C.S., D.A.B.

1891-1959

The International College of Surgeons is mourning the death, on Saturday, August 15, 1959, of Clement L. Martin, of Chicago, widely known and beloved member of the International Board of Governors and treasurer of the College.

Dr. Martin was born in Omaha, Nebraska, on March 9, 1891. He was educated at Creighton University Academy and College of Arts and Sciences, graduating in 1911 with the degree of A.B., and studied medicine at the Creighton University School of Medicine, receiving his M.D. degree in 1916. He served his internship at Kings County Hospital in Brooklyn, New York.

He was a Fellow at the Mayo Clinic 1918-1920, and then, returning to his native state, was resident surgeon at the Sacred Heart Hospital in Lynch. In 1923 he moved to Omaha, became assistant professor of applied anatomy at Creighton university and was on the surgical staff of St. Joseph's Hospital.

In 1926 he became an associate in the department of proctology at the Mayo Clinic, after which he established himself in Chicago.

In 1927 he was appointed clinical professor of proctology at Loyola University Medical School, senior attending proctologist at Mercy Hospital and consulting proctologist at the City of Chicago Municipal Tuberculosis Sanitarium. In 1939 he became director of the proctologic division of the Loyola-Mercy Clinics. In the meantime he had been designated consultant to the U.S. Veterans Hospital at Hines, Columbus, Oak Park, Alexian Brothers' and St. Bernard Hospitals.

Clement L. Martin
M.D., F.A.C.S., F.I.C.S., D.A.B.

Dr. Martin belonged to numerous proctologic and surgical organizations and was active in many of them.

A gifted teacher, Dr. Martin carried into the field of writing—his contributions to the literature of proctology were many—a logic, a clarity and an organizing ability that made it noteworthy.

Dr. Martin's devotion and loyalty to the International College of Surgeons were sincere and thoroughgoing. For some years he served as regent in Illinois. Whatever the situation or the need, Clement Martin could be counted on.

The officers of the College, the members of the International Board of Governors, all the Fellows of the College and the staff of the College are profoundly grieved.

They extend to Mrs. Martin, gracious secretary and ardent supporter of the Woman's Auxiliary to the College, and to Dr. Clement G. Martin, son of Dr. and Mrs. Martin, their truly heartfelt sympathy.

M.T.

In Memoriam

JOSEPH HENRI MARCHAND
M.D., F.I.C.S.
1895-1959

Joseph Henri Marchand
M.D., F.I.C.S.

Dr. Joseph Henri Marchand, Chief of the electroradiological service of the Lariboisiere Hospital of Paris, died recently.

A student in the Faculty of Medicine of Paris, he presented his thesis in the field of radiography on *Films Courbes* in 1924, his studies having been interrupted by the War (1914-1918), during which, as surgeon to an infantry battalion, two wounds and three citations bore witness to his courageous conduct. In recognition of these he was awarded the *Croix de Guerre* and the Military Cross of the Legion of Honor.

A student of Bensaude, he was always interested in the diseases of the anus and the rectum; assistant to Ledoux-Lebard in the service of Antonin Gosset, he was greatly occupied with radiotherapy and had formulated the rules for the use of radiotherapy in the treatment of inflammatory lesions; more recently, with Lucien Leger, he organized the technic of splenic portography.

His achievements led to his being elected, in 1935, president of the French Gastroenterological Society, and he was very happy to represent surgical radiology in the International College of Surgeons.

The officers and members of the Board of Governors of the International College of Surgeons wish to express their sympathy to Dr. Marchand's family and to all who were associated with him.

Raymond Darget
SECRETARY, FRENCH SECTION

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KRISHNALAL GHELABHAI MUNSIF
M.D., F.R.C.S. (Eng.), F.I.C.S.
1903-1959

The Indian Section of the International College of Surgeons records with sorrow the sudden death recently of Dr. Krishnalal Ghelabhai Munsif, F.R.C.S. (Eng.), F.I.C.S., of Bombay, one of the oldest, in terms of duration of membership, Fellows of the Indian Section of the College.

Dr. Munsif was born in Bhavnagar on September 15, 1903. He had his preliminary education at the Elphistone High School of Bombay, and his academic training at the Elphistone College and Royal

Institute of Science. In 1923 he was admitted to the Grant Medical College, Bombay, and graduated in 1928.

He served a two-year internship at the K.E.M. Hospital, acting as house surgeon and as surgical registrar.

He then went to England for further study in surgery. He pursued his postgraduate work for three years at St. Bartholomew's Hospital in London, and served as clinical assistant in the E.N.T. department of St. Bartholomew's Hospital Medical College.

Dr. Munsif then returned to Bombay and devoted himself to surgery, teaching and research.

He taught clinical and operative surgery at G.S.M. College and the K.E.M. Hospital. He made numerous contributions to the surgical literature of India.

He was a member of the Indian Medical Association, of the Bombay Medical Union, and a Founder Member of the Association of Surgeons of India. He was vitally interested in the work of the International College of Surgeons.

Krishnalal Ghelabhai Munsif
M.D., F.R.C.S. (Eng.), F.I.C.S.

The officers and members of the Board of Governors of the International College of Surgeons join the Indian Section in extending sincere sympathy to Dr. Munsif's family and to his associates.

A NOTE OF SYMPATHY

The officers and members of the Board of Governors of the International College of Surgeons extend their very sincere sympathy to Dr. Ernest G. Abraham of New York City upon the death, Friday, July 3, 1959, of his wife, the world-renowned pianist Maryla Jonas.

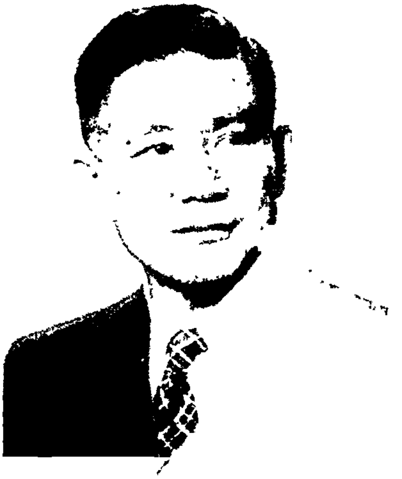
As a child prodigy, Miss Jonas made her debut in Warsaw at the age of nine and became a pupil of Paderewski. She won an International Chopin Prize in 1932 and the Beethoven Prize of Vienna the next year.

Trapped in bombed-out Warsaw during the war, she managed to escape and to make her way to Rio de Janeiro. Later she learned that her first husband, her parents and her brother had all been killed. Artur Rubinstein, fellow-pianist and a fellow-countryman, induced her to shake off her despair and to return to the piano. She toured South America and finally arrived in New York, where, in 1946, she achieved great success. Five years later, however, she was stricken with systemic monoliasis, which hindered her career in recent years.

Dr. Abraham is a member of the editorial board of the *Journal of the International College of Surgeons*, a member of the credentials committee of the New York State Surgical Section, as well as a vice-president and an associate secretary of the College.

In Memoriam

PRAPOND SERIRATANA
M.D., F.I.C.S.
1907-1959



Prapond Seriratana
M.D., F.I.C.S.

It is with deep regret that I report the untimely death, on April 21, 1959, of Dr. Prapond Seriratana, F.I.C.S., of Bangkok, assistant director of the hospital division of the department of medical services of Thailand.

Dr. Prapond Seriratana was one of our most influential members in the field of obstetrics and gynecology and had done much for the advancement of the practice and the teaching of obstetrics and gynecology in our country. He interested himself profoundly in the training of nurses at the Vijirah and Women's Hospitals, and was assiduous in raising the standard of obstetrical and gynecological procedures in the provincial hospitals.

Dr. Seriratana was born on January 16, 1907.

He was graduated from the Siriraj Medical School of Chulalongkorn University in 1929, and entered upon his military service in 1931. He pursued postgraduate studies in obstetrics and gynecology at the Pennsylvania Graduate School of Medicine in Philadelphia, U.S.A.

In 1946 he was appointed chief of the obstetrical and gynecological service of the Vijirah Hospital. In 1952 he became head of the Vijirah Hospital and also assumed the directorship of the Women's Hospital.

In 1954 Dr. Seriratana received the appointment as assistant director of the hospital division of the department of medical services, the post which he held at the time of his death.

Among Dr. Seriratana's numerous published works were treatises on various aspects of obstetrics and gynecology, statistical studies in his field of interest and a textbook on obstetrics for midwives and nurses.

The Thai Section extends to the family and associates of Dr. Seriratana the sincere sympathy of the officers and members of the Board of Governors of the International College of Surgeons.

Sem Pring-puang-geo
SECRETARY, THAI SECTION

WOMAN'S AUXILIARY MEMORIAL FUND

Send checks payable "Memorial Fund"

Mrs. Robert Le Sage, Chairman, Shores Acre, Dixon, Illinois

COLLÈGE INTERNATIONAL DE CHIRURGIENS
FOUNDED BY DR. MAX THOREK

The Journal of the International College of Surgeons

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General Surgery

Norethandrolone (Nilevar) in the Treatment of Severely Burned Victims of the Chicago School Fire

W. J. KROULIK, M.D., A.I.C.S.*
CHICAGO, ILLINOIS

VICTIMS of severe burns, of thermal or other origin, universally exhibit significant depletion[1] of nitrogen stores from their bodies. This phenomenon persists for many days after the insult and results in a slower rate of healing and a poorer prognosis. In order to offset this catabolic reaction, diets high in calories, proteins, vitamins and minerals have ordinarily been provided from the third or fourth day onward; the catabolic phase, however, usually has continued in the face of such measures for a considerable length of time.

That testosterone propionate and other androgenic substances[2] restore anabolism and induce a positive nitrogen balance has been known for many years. When used clinically, these steroids often produce androgenic side effects[3] that largely preclude their use in children or in female patients. A synthetic steroid, norethandrolone (Nilevar), which has recently been introduced as an orally administered anabolic agent possessing only minimal androgenic side effects, has been recommended as part of the total treatment of persons subjected

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*Clinical Instructor in Surgery, Chicago Medical School; Medical Director, Franklin Boulevard Community Hospital. Submitted for publication May 26, 1959.

The program of treatment for 33 victims of fire at Our Lady of the Angels School in Chicago is reviewed. Immediate action on arrival of the children included prevention of secondary shock, administration of intravenous fluids, introduction of indwelling urinary catheters and, for 1 child, immediate tracheotomy. Pain, apprehension and restlessness were controlled by promethazine. Bacterial infections, which occurred in all 33 children, were controlled by novobiocin and nitrofurantoin. Diets high in protein, vitamins and minerals were prescribed, and a new anabolic steroid, norethandrolone, was observed to promote appetite and gains in weight. It was also the impression of the investigator that this agent speeded wound healing and promoted healing of microsized skin grafts.

to burns or trauma. This recommendation has been made on the basis that norethandrolone produces protein anabolic activity which promotes faster healing and a positive nitrogen balance, but produces fewer androgenic effects in children and females.

Recently an opportunity was presented for observing the efficacy of norethandrolone in a group of 33 children who were severely burned in the fire at Our Lady of the Angels school in Chicago. Of those children who were hospitalized as the result of burns and other trauma, 34 were brought to the Franklin Boulevard Community Hospital. One child, suffering from burns on 90 per cent of his body surface, died six days after admission. Of the remaining 33 children, 15 had first-degree burns on 18 per cent or more of their bodies; 8 had second-degree burns on 15 per cent or more of their bodies, and 7 had third degree burns on 9 per cent or more of their bodies.

Immediately upon arrival, all children were given intravenous fluids to replace the plasma fluids lost in the form of exudate through the burned surfaces. Secondary shock resulting from the loss of such fluid is an imminent danger to such patients, and its prevention takes precedence over all other procedures during the first stage of treatment. The veins in these children were not readily accessible, so that an immediate "cut-down" in a major vessel was indicated. The "rule of 9," i.e., the head, 9 per cent of the body surface; each arm and hand, including the deltoid, 9 per cent; each foot and leg as far up as the inferior gluteal fold, 18 per cent; front and back of trunk, 18 per cent each; and neck, 1 per cent, was applied to determine the percentage of the body area burned. Evans' rule (2 cc. per kilogram of body weight, multiplied by the percentage of body surface affected) was applied to determine the amount of intravenous fluid to be given.

During the first twenty-four hours the children were given an intravenous fluid composed of 33 per cent colloid solution (both whole blood and plasma were used) and 66 per cent electrolyte solution (5 per cent lactose and 5 per cent dextrose in water, and 5 per cent dextrose in saline solution were used). Immediate and repeated tests (serum sodium, serum calcium, blood volume, blood type and hematocrit reading) were made on each patient to determine the degree of hemoconcentration, and the types and contents of the fluid being administered were adjusted according to these data. Protein concentration of the plasma was usually above normal during the first six to eight hours, then declined rapidly to below normal. Destruction of red blood cells was severe, and numerous transfusions were required

TABLE 1.—*Types of Bacterial Infection and Antibiotic Sensitivity In 33 Severely Burned Children*

Species of Bacteria	Per Cent Infected	Antibiotic Tested	Per Cent Sensitive	Per Cent Resistant
Staphylococcus albus (coag. negative)	31	Novobiocin	100	
		Erythromycin	66	34
		Chloramphenicol	66	34
		Tetracycline	34	66
		Penicillin	34	66
Staphylococcus aureus (coag. positive)	23	Novobiocin	100	
		Erythromycin	66	34
		Tetracycline		100
		Chloramphenicol	66	34
		Penicillin		100
Staphylococcus aureus (coag. negative)	8	Erythromycin	100	
		Novobiocin	100	
		Chloramphenicol	50	50
Pseudomonas sp.	10	Nitrofurantoin	100	
Coliform bacilli	8	Nitrofurantoin	50	50
		Neomycin	66	34
		Polymyxin B	66	34
Proteus sp.	8	Nitrofurantoin	100	
		Chloramphenicol	100	
		Streptomycin	100	
Bacillus subtilis	7*			

*This was found to be a contaminant rather than an actual infection in the children.

to alter low red blood cell counts and low hematocrit levels.

An indwelling urinary catheter was introduced immediately into each child's urinary bladder, and the output of urine measured hourly; an output of 30 to 50 cc. per hour was considered satisfactory. The output was regulated by the amount of fluids administered. As soon as it was being satisfactorily maintained, oral fluids in the form of water, orange juice and a carbonated beverage high in carbohydrate content were allowed. The use of an artificial kidney was resorted to in 1 child. By this means 6 to 8 liters of fluid was removed per day, with a concomitant lowering of his urea and urea nitrogen levels.

In 1 child, inhalation of hot air had created edema of the glottis. An immediate tracheotomy was performed to relieve obstruction of the air passages.

Pain, restlessness and apprehension were well controlled by the administration of 12.5 mg. of promethazine (Phenergan) every six hours, on the average. Morphine was not used for this purpose during the first stage of treatment, because of its tendency to depress respiratory activity. On the other hand, promethazine not only exerted the desired tranquilizing effect but did not exert any observable depressant influence on the respiratory system.

Development of edema, loss of fluids through exudate from burned surfaces and extreme hemoconcentration reached a climax in all patients during the first twenty-four to forty-eight hours. Treatment of these conditions was adequate to maintain life in all but 1 patient, referred to previously.

Only after the children had passed their crises and shock or stoppage of air passages was not likely was local treatment of burns instituted. Preliminary cultures were taken from the burned areas, and a cleansing débridement of all wounds was carried out. Both the open and the closed methods of treating burned areas were used. In instances in which dressings were applied, this procedure was carried out immediately; such dressings were saturated with the antibiotic nitrofurantoin, so that bacterial multiplication was inhibited. Thereafter, fresh dressings were applied every three days.

TABLE 2.—*Weight Gain of Eight Severely Burned Children Treated with Norethandrolone Compared with That of Two Untreated Controls*

Name	Weight on Admission	Nilevar Dose	Duration of Treatment, Weeks	Weight at End of Treatment	Weight Gain, %
J. K.	82	15 mg./day	8	94	14.6
D. V.	75	10 mg./day	6	80	6.6
T. D.	69	10 mg./day	12	81	17.4
D. T.	64	10 mg./day	12	72	12.5
P. D.	101	20 mg./day	3	110	8.9
R. Q.	74	10 mg./day	10	89	20.2
D. D.	78	15 mg./day	12	92	17.9
M. P.	72	10 mg./day	12	76	18.7
F. C.	72	none	6*	70**	none
A. A.	59	none	12*	61**	1.3

*Period of observation.
**Weight at end of observation period.

Bacterial infection of wounds occurred in all children (Fig. 1). Approximately 31 per cent of the children were infected by Staphylococcus albus, coagulase negative; 23 per cent by Staph. aureus, coagulase positive; 8 per cent by Staph. aureus, coagulase negative; 15 per cent by pseudomonas sp.; 8 per cent by coliform bacilli; 8 per cent by proteus sp., and 7 per cent by Bacillus subtilis. Individual sensitivity tests were performed on cultures from each patient, and it was found that 100 per cent sensitivity to novobiocin was exhibited by the coagulase-positive cultures of Staph. aureus; therefore, novobiocin was the drug of choice. Other antibiotics, which were less effective, included erythromycin, 66 per cent sensitive; chloramphenicol, 66 per cent sensitive; tetracycline, 66 per cent resistant, and penicillin, 66 per cent resistant.

Erythromycin and novobiocin were found to be the drugs of choice for infections with Staph. albus, coagulase negative, since all such cultures were 100 per cent sensitive to these antibiotics. Only 50 per cent of these cultures showed sensivity to chloramphenicol. With regard to pseudomonas sp., nitrofurantoin was the drug of choice, since laboratory tests showed 10 per cent sensitivity.

It was interesting to note that in every child, after each episode of débridement generalized septicemia developed, lasting for approximately twenty-four hours. An intravenous antibiotic of the appropriate type was administered for prompt control. Further, it was noted that, if a child had a staphylococcic infection, the same strain would develop in the other children in the room. Semi-isolation was therefore imposed for all the children when infection developed, and dressing and redressing of wounds were carried out under sterile conditions in an operating room.

The total treatment of patients with extensive burns is dependent[4] upon maintenance of proper protein levels in the blood. During the first stage protein was supplied to these children primarily by the intravenous route. This means of administration, however, was augmented as soon as possible by high levels of dietary protein and by the administration of norethandrolone, a protein anabolic agent. Only in this manner was it possible to overcome the extreme losses of plasma protein from burned surfaces and tissue loss caused by toxic destruction. A continued supply of large amounts of protein was necessary to provide for repair and new growth in the burned area as well as for maintaining the patients' resistance to overwhelming infection.

All of the children were given diets high in protein, vitamins and minerals. In addition, 8 were given norethandrolone for three to nine weeks; 23 were given norethandrolone for less than two weeks, and 2 were given no norethandrolone. All other medical measures, nursing care, etc. were basically the same for all.

Progress of the 8 patients treated with norethandrolone for three to nine weeks and that of the 2 patients who were given no norethandrolone are shown in Figure 2. The norethandrolone-treated group gained from 5 to 15 pounds (2.3 to 6.8 Kg.) during therapy for an average of a 14.6 per cent gain in weight over that recorded at the time of their admission. In all of these children a voracious appetite developed, while those who were not given norethandrolone had a much poorer appetite during their stay. One patient (Fig. 2) not treated with norethandrolone lost 2 pounds (0.9 Kg.) during six weeks in the hospital, while the other gained 2 pounds. Doses in the treated group ranged from 10 to 20 mg. daily, the drug being given orally in tablet form.

The mechanism of action of this new 19-nor steroid is not completely understood; it is known, however, to induce anabolism of protein, as measured[5] by balance studies. A number of investigators have reported that norethandrolone will induce weight gain in both children[6] and adults[7] who are underweight and that it is relatively free from the androgenic side effects associated with many anabolic steroids. Although no reports of its administration to patients with extensive burns have previously been reported, norethandrolone has been shown in several studies to promote healing[8] of other types of wounds. In this study, its value to victims of extensive burns has been confirmed; it promoted a gain in weight in all patients treated for three or more weeks and seemed to promote a feeling of well-being. In addition, although it was not possible to prove by objective testing, it was the impression of the investigator that healing of wounds in the treated patients took place more rapidly than in the 2 patients who were not given the drug (the 2 untreated patients remained in the hospital two weeks longer than the average stay of Nilevar-treated patients).

The case histories of 2 patients, one treated with norethandrolone and one not so treated, are here presented.

REPORT OF CASES

CASE 1.—T. D., a girl aged 10, suffered second and third degree burns on both arms, second degree burns on the chest and face and a first degree flash burn of the eyes, totaling 18 per cent of the body surface. Immediately after she was admitted to the hospital on the afternoon of Dec. 1, 12.5 mg. of promethazine was administered intramuscularly to control pain and apprehension. Demerol, 25 mg. intramuscularly, was also administered. Loss of fluid from the body required immediate intravenous administration of 500 cc. of plasma. Sterile petrolatum dressings were applied to both arms and both hands while the open dressing method was resorted to in the case of the face and chest. Cortisone acetate ophthalmic ointment was applied to the eyes. During the first twenty-four hours the patient was given, intravenously, solutions consisting of 5 per cent dextrose in saline and 5 per cent lactose in Ringer's solution, in addition to 500 cc. of whole blood. Oral feedings of fruit juices and a carbonated beverage were initiated on the third day after the injury. Beginning on the fourth day, 10 mg. of norethandrolone was administered daily for three months. On the third day after the injury, sterile débridement of wounds was carried out and all necrotic tissue removed. Blisters were opened and cultures taken for determination of the appropriate antibiotic to be used. Dressings were then applied under sterile conditions, and the procedure was repeated every three days until healthy granulation tissue developed. Split thickness skin grafts were used on the flat surfaces, while micrografts were applied to the webbed area of the fingers. Skin graft dressings were allowed to remain in place for seven days to insure proper healing. All skin grafts "took," and healing of the burned surfaces was uneventful. The patient was released on March 15, three and one-half months after the injury occurred. During her stay in the hospital she had gained 8 pounds (3.6 Kg.).

CASE 2.—A. A., A girl aged 9, sustained second and third degree burns on both lower extremities, totaling 18 per cent of the body surface. Initially she was given 500 cc. of plasma, 500 cc. of whole blood, 1,000 cc. of lactose in Ringer's solution and 1,000 cc. of dextrose in saline solution. Sterile petrolatum dressings were applied, with compression to both lower extremities. Three days after admission, débridement of wounds and removal of necrotic tissue were carried out under sterile conditions. A tissue culture was taken at this time and laboratary studies carried out to determine the appropriate antibiotic to be used. The burned areas were packed in mechanics' waste, through which a perforated rubber drain was inserted, and daily irrigations of the area with nitrofurantoin were carried out. Pain and discomfort during the initial stages were controlled with 12.5 mg. of promethazine every six hours. Redressing of wounds was carried out at three-day intervals under sterile conditions in the operating room. On the thirtieth day after the insult, split thickness skin grafts, 1/1,700 inch thick, were applied to both extremities. Seven days later, the first grafts had separated and regrafting of the areas was done. The patient was discharged on April 1, four months after the insult had occurred. It is to be noted that this patient was one of 2 patients who were not treated with Nilevar; in her case, skin grafting was not as successful, recovery required a considerably longer period and gain in weight was less than that observed by those treated with norethandrolone.

COMMENT

The accompanying photographs are illustrative of the progress made by these two patients. Figure 1, *A* through *G*, shows the progress of patient T. D. at two, four, six, ten and eighteen weeks after the insult. Figure 2, *A* through *C*, shows the progress of patient A. A., who was not given norethandrolone, at two, six and ten weeks after the insult.

In addition to the other procedures described, skin grafting was carried out in each patient as soon as conditions warranted. Formerly this was often delayed until the burned area was sterile; in most instances, however, antibiotics adequately controlled infections in these children, so that grafting was initiated as early as four days after the insult. Early grafting is desirable in order to prevent fibrosis and invasion of bacteria through open wounds; in addition, the time spent in the hospital is usually diminished[9] if grafts are applied early. Since it has been observed that a skin graft proliferates along its edges, it follows that a multiplicity of edges would increase proliferation as well as healing. Therefore, microsized skin grafts, known as "micrografts," were literally sprinkled on large burned areas in these children with totally satisfactory results. Single, large sheets of autografts were almost impossible to use in many of these patients and were impractical as compared with the method of micrografting described. All grafts were applied on young granulations that were flat, smooth and shiny, with absence of gross exudate. As has been noted elsewhere,[9] grafts have not been successful when placed on an edematous, infected granulating surface.

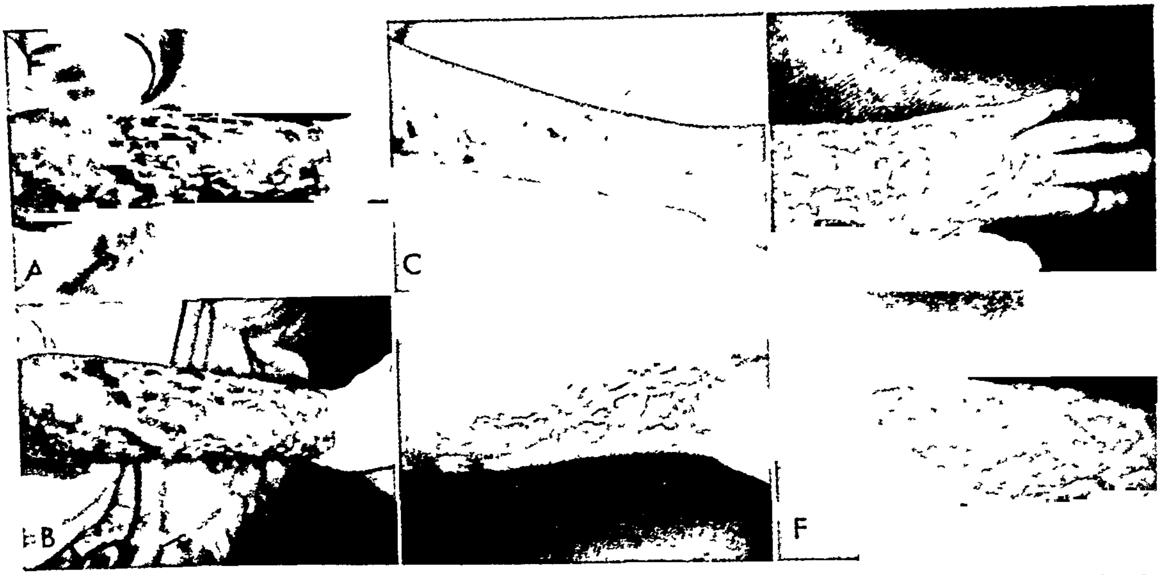

Fig. 1.—*A*, patient T.D., two weeks after insult. Nilevar had been started four days after patient's admission to hospital. *B*, four weeks after insult. *C*, six weeks after insult. *D*, ten weeks after insult. *E*, eighteen weeks after insult. Micrografts were used on webbed areas between fingers, now completely healed. *F*, eighteen weeks after insult. Note formation of keloids (right arm).

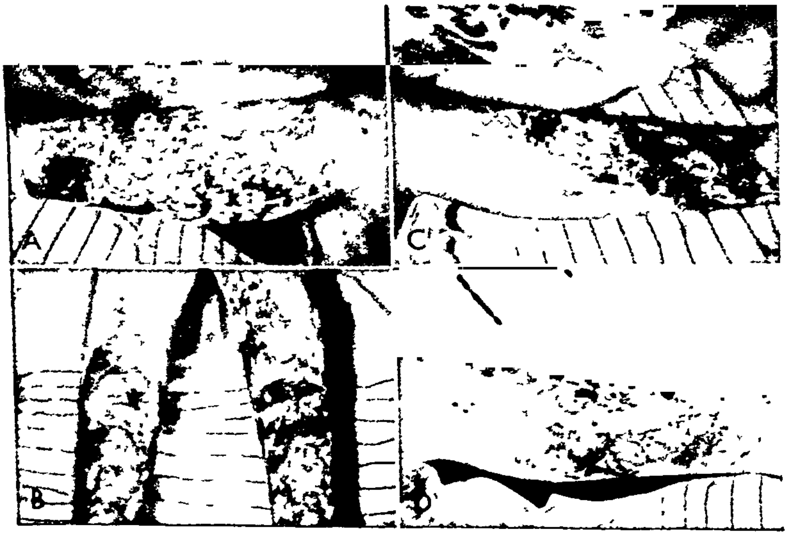

Fig. 2.—*A* and *B*, patient A.A. two weeks after insult; no Nilevar was given. *C*, six weeks after insult. Grafting at end of thirty days had not been successful, and procedure was repeated one week later. *D*, ten weeks after insult. These second and third degree burns did not heal as well as did those of patient T.D. in the same time interval.

At the end of four months, 32 of the 33 children admitted to the Franklin Boulevard Community Hospital on December 1 had been discharged as fully recovered, while 1 patient (who was not treated with norethandrolone) remained in the hospital at this time.

ZUSAMMENFASSUNG

Es wird ein Überblick über den am 33 Opfern des Brandes in einer Chicagoer Schule (Our Lady of the Angels) durchgeführten Behandlungsplan gegeben. Zu den sofort nach Krankenhausaufnahme der Kinder durchgeführten Massnahmen gehörten die intravenöse Verabfolgung von Flüssigkeiten zur Vorbeugung sekundären Schocks, Einführung von Dauerkathetern in die Blase und in einem Falle sofortiger Luftröhrenschnitt. Schmerz, Angst und Unruhe wurden durch Verabreichung von Promethazin kontrolliert. Bakterielle Infektionen, die bei allen 33 Kindern auftraten, wurden mit Novobiocin und Nitrofurantoin bekämpft. Eiweissreiche Kost, Vitamine und Mineralien wurden verordnet. Ein neues den Aufbau anregendes Steroid, Norethandrolon, erwies sich als Appetit anregend und führte zur Gewichtszunahme. Der Untersucher hatte auch den Eindruck, dass dieses Mittel die Heilung der Wunden und der dünnschichtigen Hauttransplantate beschleunigte.

RÉSUMÉ

Le programme de traitement mis en oeuvre pour les 33 victimes de l'Ecole "Our Lady of the Angels" à Chicago, est décrit. Les soins immédiats comprenaient la prévention du choc secondaire par l'administration de liquides intraveineux, l'introduction de cathéters urinaires à demeure, et dans un cas une trachéotomie d'urgence. La douleur, l'appréhension et la nervosité ont été contrôlés au moyen de prométhazine, les infections (présentes dans tous les cas) par la novobiocine et la nitrofurantoine. Des régimes riches en protéines, en vitamines et en sels minéraux ont été prescrits, et l'on a constaté une augmentation de l'appétit et du poids grâce à l'administration d'un nouveau stéroïde anabolique. Ce produit semble avoir également accéléré et favorisé la cicatrisation des plaies et des greffons cutanés.

RESUMEN

En este artículo se hace una exposición del plan seguida en el tratamiento de 33 víctimas del incendio del Colegio de Nuestra Señora de los Angeles de Chicago. Las primeras medidas tomadas a la llegada de los niños comprendían entre otras cosas la prevención del shock secundario por administración intravenosa de líquidos, sondajes vesicales y en un niño traqueotomía inmediata. El dolor, la angustia y la inquietud fueron tratados por administración de Prometacina. Las infecciones bacterianas ocurrienon en los 33 casos y se trataron con Novobiocina y con Nitrofurantoína. Se prescribieron dietas ricas en proteínas, vitaminas y minerales así como un nuevo esteroide anabólico, la noretandrolona que excita el apetito y hace aumentar el peso. La impresión del autor es la de que esta sustancia acelera la curación de la herida y el resultado de los pequeños injertos cutáneos.

RIASSUNTO

Viene descritto il sistema usato per la cura delle 33 vittime dell'incendio della scuola di Nostra Signora degli Angeli a Chicago. Come provvedimento di urgenza, all'arrivo bei bambini, si impiegò la terapia anti-shock con somministrazione endovenosa di liquidi, catetere urinario a permanenza, e—in un caso—tracheotomia. Il dolore, l'agitazione, l'ansia furono controllati mediante prometazina; l'infezione (che si verificò in tutti 33 i bambini) con novobiocina e nitrofurantoina. Si som-

ministrarono diete ad alto cortenuto proteico, vitaminico e minerale e si notò che il nor-etandrolone, un nuovo steroide anabolizzante, aumentava l'appetito e faceva guadagrare in peso. Si ebbe anche l'impressione che questo farmaco rendesse più rapida la guarigione delle ferite e favorisse l'attecchimento dei trapianti cutanei.

SUMARIO

Faz a revisão do tratamento seguido em 33 vitimas do incêndio da escola Our Lady of Angels, em Chicago. Foram estabelecidas então a prevenção do choque secundário pela administração de liquidos, cateteres e traqueotomia imediata para uma criança. A prometasina combateu a inquietação, a dor e a apreensão. As infecções bacterianas foram combatidas com novobiocin e nitrofuracin. Dieta hiperprotêica, vitaminas e minerais e o novo esteroide anabolico, noretrandolone agiram sobre a nutrição e aumento de peso. Acha o A. que este agente acelera a cicatrização das feridas e a integração dos enxertos fragmentados que foram usados naquelas vitimas.

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Many wise men have from time to time expressed the conviction that more deaths have been caused by overeating than by intemperance in drinking. While it is true that no man perhaps ever beat his wife as a result of overeating, or drove a motor car recklessly, or shot down a policeman, yet these consequences of the excessive use of alcohol are probably fewer in number than the silent tragedies which follow overeating.

—*Major*

Congenital Absence of the Gallbladder

A Statistical Study

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CHULA VISTA, CALIFORNIA

The author received replies from 799 pathologists with reports on approximately 1,352,000 autopsies. One hundred and eighty-one cases of congenital absence of the gallbladder, approximately 1 in 7,500, were observed. In some 117 cases, or approximately two thirds, the anomaly was associated with one or more other congenital abnormalities; in the other 64, it occurred alone. In 43 per cent of the cases the patients were infants under 1 year of age.

Congenital absence of the gallbladder is occasionally the cause of nonvisualization on radiographic examination.

After observing a case of congenital absence of the gallbladder, I became interested in its incidence. Since it was difficult to determine the incidence from published reports, I sent questionnaires to all the pathologists in the current Directory of Medical Specialists.

More than 2,300 questionnaires were mailed, and 799 replies were received. In addition to studying the replies, I have prepared a bibliography of this anomaly, including 74 reports published from 1917 to 1958.

The results of the survey show that congenital absence of the gallbladder is a rare condition. One hundred and eighty-one cases were noted in 1,352,000 autopsies, an approximate incidence of 1: 7,500.

In 77 cases the patients were under 1 year of age; several stillborn and prematurely born infants are included in this total. The number of cases in this age group comprises 43 per cent of the total number.

At autopsy the anomaly is observed about equally in the two sexes. Clinically, however, it is observed about twice as often in the female, which correlates with the usual sex ratio for surgical disease of the biliary tract.

Even though it occurs rarely, this anomaly may be the cause of nonvisualization of the gallbladder. Absence of the gallbladder is found as frequently in the later decades of life as in the earlier if one excludes children the first year of life, newborn infants and children born prematurely.

In 117 cases, or approximately two thirds of those reported, the anomaly was associated with one or more other congenital defects; in approximately one-third it occurred alone.

In addition to congenital absence of the gallbladder, the following abnormalities of the biliary system were noted: atresia of the hepatic ducts and/or the common duct (31)*; absence of the common bile duct (8); anomalies of the hepatic bile ducts (6); cystic dilation of the common bile duct (1), and choledocholithiasis (5).

The frequency of congenital abnormalities of the extrahepatic biliary system in children with fibrocystic disease has been noted by Bernard M. Wagner, M.D.,

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Submitted for publication May 20, 1959.

*Numerals in parenthesis denote number of cases.

Pathologist, The Children's Hospital, Philadelphia.*

Abnormalities observed elsewhere than in the biliary system were numerous and extremely varied. Multiple congenital defects were present in many of the autopsies.

Anomalies of the cardiovascular system included: congenital defects of the heart (18); coarctation of the aorta (4); absence of the renal arteries; tetralogy of Fallot (4); persistence of the left vena cava (2), and double superior vena cava.

The following abnormalities of the gastrointestinal system were noted: diverticulum of the duodenum (2); dystrophy of the duodenum; esophageal atresia with tracheoesophageal fistula; Meckel's diverticulum (4); multiple anomalies of the gastrointestinal system; annular pancreas (2); cystic fibrosis of the pancreas (4), and supernumerary lobe of the liver.

Defects observed in the genitourinary system included, among others, absence of the right testis; absence of the renal arteries; absence of the penis; absence of the fallopian tube and ovary; atresia of the urethra; atresia of the ureter; diverticulum of the bladder; double uterus (2); double vagina; hypoplastic left kidney and ureter; extrophy of the bladder; polycystic kidney; patency of the urachus, and uterus unicornis.

The following defects of the central nervous system were found: agenesis of the corpus callosum; cystic dilatation of the fourth ventricle; berry aneurysm with subarachnoid hemorrhage; hypoplasia of the cerebellum; lumbosacral meningocele, and multiple anomalies of the central nervous system.

The following abnormalities of the skeletal system were reported: absence of the left fibula; clubbing of the phalanges; bilateral calcaneovalgus; preaxial polydactylism; spina bifida; talipes equinovarus, left, and talipes calcaneovarus.

TABLE 1.—*Congenital Absence of the Gallbladder*

Age of Patient	*Number of Cases*
Under 1 year	77
1-4	13
5-15	1
20-39	9
40-59	14
60-69	14
70-90	15
Over 90 years	2
Age unknown	36

Other abnormalities included were: absence of the spleen; accessory spleens (2); adrenal hypoplasia; Eisenmenger's complex; bilateral inguinal hernia; umbilical hernia; exomphalos; lobulated kidney; monolobular and bilolobular lungs (1 instance); stenosis of the larynx, and sacrococcygeal sinus.

Author's Note: I wish to thank most heartily the 799 pathologists whose kind interest and cooperation made this study possible.

RÉSUMÉ

L'auteur a diffusé un questionnaire auquel il a reçu des réponses de 799 anatomopathologistes englobant environ 1.352.000 autopsies, parmi lesqueles 181 cas d'absence congénitale de la vésicule biliaire ont été observés, soit environ 1 pour 7.500.

Dans environ 117 cas, soit les deux tiers, cette anomalie était associée à une ou plusieurs autres anomalies; elle s'est présentée seule dans 64 cas. Dans 43% des cas il s'agissait de nourrissons de moins d'un an.

L'absence congénitale de vésicule biliaire est occasionnellement la cause de la non-visualisation de cet organe lors de l'examen radiologique.

RIASSUNTO

Ad un questionario inviato agi anatomopatologi, l'autore ha ricevuto 799 risposte

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*Personal communication.

coi dati relativi a circa 1.352.000 autopsie. Si osservò l'assenza congenita della colecisti in 181 casi, il che equivale a una percentuale di circa 1/7500.

In 117 casi l'anomalia era associata a una o più altre anomalie congenite. Nel 43% dei casi si trattava di bambini al di sotto di un anno.

La mancata visualizzazione della colecisti nel corso di una colecistografia può pertanto essere talvolta dovuta alla mancanza congenita dell'organo.

ZUSAMMENFASSUNG

Ein vom Verfasser ausgesandter Fragebogen wurde von 799 Pathologen mit Berichten ueber etwa 1.352.000 Obduktionen beantwortet. Es wurden 181 Faelle von angeborenem Fehlen der Gallenblase, d.h. etwa ein Fall unter 7500, beobachtet.

In 117 Faellen, d.h. in etwa zwei Dritteln, bestanden gleichzeitig noch eine oder mehrere angeborene Anomalien. In den uebrigen 64 Faellen war die Abwesenheit der Gallenblase die einzige Anomalie. In 43 Prozent der Faelle handelte es sich um Kinder im Alter von weniger als einem Jahr.

Das angeborene Fehlen der Gallenblase kann gelegentlich die Ursache der Nichtdarstellbarkeit des Organs mittels der Roentgenuntersuchung sein.

RESUMEN

El autor envió un cuestionario a 799 anatomopatólogos y ha recibido de ellos datos de 1.352.000 autopsias aproximadamente. En 181 casos apareció ausencia congénita de la vesícula biliar, es decir, una vez cada 7.500. De éstos casos, en 117, o sea unos dos recios, la ausencia de la vesícula iba asociada con otras anomalías de las vías biliares y en los otros 64 casos se presentababa sola. El 43% de los casos se observó en niños menores de un año.

La ausencia congénita de la vesícula biliar puede ser la causa de la falta de visualización en los exámenes radiológicos.

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In considering the present attitude toward contaminated or infected wounds, three developments of the post-war period must be taken into account. The first is the continued advance of bacteriology. and the appreciation by surgeons that of the bacterial cosmos the greater number are harmless or even useful fellow citizens. while of those that are pathogenic the majority are unlikely to establish themselves in wounds unless they are introduced in great numbers or meet with a diminished local or general resistance. Streptococci alone are dangerous in minimal quantities. and they alone can establish themselves among the healthy tissues of a healthy victim. The chief danger at an operation where the dressings and instruments have been properly sterilized is by droplet infection from some member of the team or a spectator who harbours a streptococcus in his pharynx.

The second is the invention of the sulphonamide group of drugs. Before and during the war a number of antiseptics more effective and less toxic than the old ones had been found, but the perfect substance. one lethal to bacteria but harmless to the host. seemed to elude discovery. Ehrlich's salvarsan had shown that such selective action was possible, but the hopes that it raised were deferred when it became apparent that the arsenical compounds acted on the spirochaete family only. Sulphanilamide. introduced by Domagk in 1935. has shown that the ideal is not a dream.

—*Ogilvie*

Relative Hypospadias Potentiated by Inadequate Rupture of the Hymen: a Cause of Chronic Inflammation of the Lower Part of the Female Urinary Tract

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Acute ascending inflammation of the urinary tract in women starting sexual life is not determined by chance or excess. Certain physical characteristics predispose specific patients to trouble. More important, the same characteristics occur in many women with chronic problems referable to the lower part of the urinary tract. A radical new surgical approach that takes account of these observations is described.

Six months after the operation no symptoms of urethritis, trigonitis or cystitis had recurred in more than half of 22 patients with previous chronic complaints. After six months, with no interval treatment following surgical intervention, 19 of these 22 patients estimated their own improvement at more than 80 per cent.

THE clinical concept of ascending inflammation of the urinary tract occurring in some women as they begin active sexual life is well established. The usual duration of this inflammation and its accepted cause—inexperience, concentrated coital excess, and the delicacy of virginal tissues, which permits easy bruising and congestion—are implied by the commonly used term "honeymoon cystitis." In my own opinion, acute ascending urethritis rarely occurs in brides unless they have some degree of relative hypospadias. Relative hypospadias may be defined as any approximation of the urethra and the vagina which, during coitus, fosters trauma or fouling of the lower part of the urinary tract. Relative hypospadias can occur also, with more than expected frequency, in many women who have what I consider chronic forms of honeymoon cystitis, e.g., long-standing nonspecific urethritis, pseudogranular trigonitis and certain recurring bladder infections. This is an important clinical observation, for, when these conditions cannot otherwise be explained, an indirect cause-and-effect relation between relative hypospadias and the inflammation often exists.

The fact that hypospadias as a direct cause of inflammation of the urinary tract has been dismissed by others is appreciated.[1] That some ill-defined coital factor as an indirect previous cause has been

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suspected in certain patients is acknowledged.[2] In this paper I shall seek to explain the link between hypospadias, coitus and inflammation through a previously unrecognized potentiator, inadequate rupture of the hymen. A universal cause of all problems referable to the lower part of the female urinary tract is *not* suggested. Consideration of a dynamic interrelation between relative hypospadias, the hymen and coitus can explain, in some cases, many otherwise obscure urinary complaints. Strong support for the concept of inadequate hymeneal rupture as a potentiator is suggested by the improvement reported by many women with therapy-resistant, long-standing infections of the urinary tract when the trigone and urethra are ignored and therapy is directed, by gynecologic means, toward relief of inadequate rupture. There may be need for reappraisal of some established gynecologic and urologic principles, especially those which attempt to separate the gynecologic and the urologic areas at an arbitrary boundary, the urethral vaginal septum.

Adequate Rupture of the Hymen.—In the adolescent virgin the hymen consists of a centrally perforated connective tissue disk, over most of both faces of which mucosa continuous with that of the vagina and vestibule is reflected. At initial coitus, radial lacerations of the mucosa should originate at multiple points along the margin of the aperture. It is by the extension of these lacerations deeper within the hidden connective tissue layer that adequacy or inadequacy of rupture is determined. This is due to arrangement of the connective tissue within the hymen into a septum and ring—separable through density, yet confluent in substance, much as is the silver on the face and in the minted edge of a coin. Under ideal circumstances this deep connective tissue divides easily at the end of each extending laceration, and the septum and ring disintegrate as clinical structures. Scant bleeding, slight pain and prompt healing are the rule.

Effects of Adequate Rupture of the Hymen.—The vagina, prepared by adequate rupture of its limiting ring and muscularized by active participation in coitus, emerges as a remarkably functional organ strongly resistant to trauma and disease. There is no obstacle to entrance; all bearing surfaces are broad, and the underlying tissues are yielding and resilient. The eventual caliber and capacity achieved can be almost unlimited. Despite this, both voluntary and involuntary control of the musculature remain, and instant reduction of the lumen to near obliteration at will, or with reflex spasm, is possible. When rupture of the hymen has been adequate, it is these muscles, rather than the skin, the vaginal mucosa or any layer of the hymen, that limit the caliber of the vagina thereafter.

Inadequate Rupture of the Hymen.—Inadequate rupture can be produced in many ways and may exist in different forms. In some virgins the hymeneal aperture may be so large, congenitally, that only the narrowest rim of septum surrounds it. In these circumstances the penis may pass at first and coitus may follow without initiating cuff tears of the aperture. Without initial breaks in the mucosa of the cuff, extension of radial lacerations within the septum seldom occurs. Despite complete entrance of the penis through the aperture, the hymen proper (mucosa, septum and ring) remains intact, and there is little increase in the distensible caliber at the introitus. This entirely intact hymen is the most obvious form of the condition under discussion and is common. Patients with inadequate rupture of this variety have no bleeding at initial intercourse.

At times hymeneal cuff breaks are multiple, but only superficial extension of lacerations into the septal connective tissue occurs, and the substance of the hymen ring is not broached at any point. Trauma of subsequent coitus tends to extend slightly the ends of such incomplete septal tears, producing hidden fissures.

In other varieties of inadequate hymeneal rupture, mucosal breaks at first intercourse occur *only at one or two points* along the circumference of the aperture, limiting extensions through the septal connective tissue, and therefore through the connective tissue of the hymeneal ring, to this number of tears. Extension of only one or two lacerations through all levels of the hymen permits some deep underlying yield, but this often is less than complete. Full-bellied tags delineated by such lacerations are apt to become hypertrophied, and the V between them is a common site of fissures. Bleeding at initial intercourse usually occurs with a single or a double tear. When there is deep extension, this bleeding may be brisk.

The Hymen and Menopause.—With the menopause, regardless of the type of hymeneal rupture, there is a decrease in the thickness and fullness of the vaginal mucosa, associated with progressive loss of underlying tissue resilience, occurring as part of the aging process. In time, even when rupture of the hymen has been adequate, the ability to vary the caliber, which characterized the marital vagina in its prime, disappears. By the seventies and eighties the small introitus of fixed caliber less than 1 fingerbreadth must be considered normal. Remnants of the adequately ruptured hymen participate in this aging process but remain flush with the surface of the introitus or below it; the introitus retains a caliber equal to that of any other level of the vaginal canal. When rupture of the hymen has been inadequate this is not the case; the pathologic implications of inadequate rupture cause premature and disproportionate constriction *at the level of the introitus.*

Pathologic and Gynecologic Symptoms of Inadequate Rupture.—Essentially the pathologic change associated with inadequate hymeneal rupture is hymenitis. Minor dyspareunia and leukorrhea exist in most patients with inadequately ruptured hymens. This is inherent in the snugness that permits chafing or repeated superficial *splitting of the free edges of the taut* hymen at coitus. Hypertrophy and edema often result. At rest these same hymeneal arcs can trap secretions and débris. Prolonged concentration and souring of these substances expose limited areas of mucosa to maceration and superficial ulceration, causing discharge, burning and pruritus. Inadequate rupture of the hymen frequently underlies foul verrucae. Large hymeneal tags that are prominently demarcated can produce pain through deep inflammation. A tag so free that alternately it can be rolled in and out between the penis and the vaginal wall during coitus soon responds with a tender tissue reaction along its "line of buckle." The same friction against adjacent tags, combined with their spread during coitus, can cause recurrent fissuring between. At times a low, stiff epiglotoid structure of minimal sensitiveness may develop from hymeneal fragments, especially those that remain posteriorly.

Trauma incidental to pregnancy or perineal surgery, surgical or irradiation castration, postvaginal cone scarring, metabolic disturbance such as obesity and diabetes, infections, infestations and the general process of aging all can exert an influence on the course of inadequate rupture of the hymen; indeed, they are often necessary with coitus for the progression and full development of the abnormality. Over *the years, hymenitis,* whether mechanical or infectious (and these processes usually are inseparable), is associated with the cardinal signs of any inflammation, including eventual scar. The *septum thickens and becomes stiff,* while underlying segments of the ring harden and become set. It is only this induration, increased substance and sensitiveness that

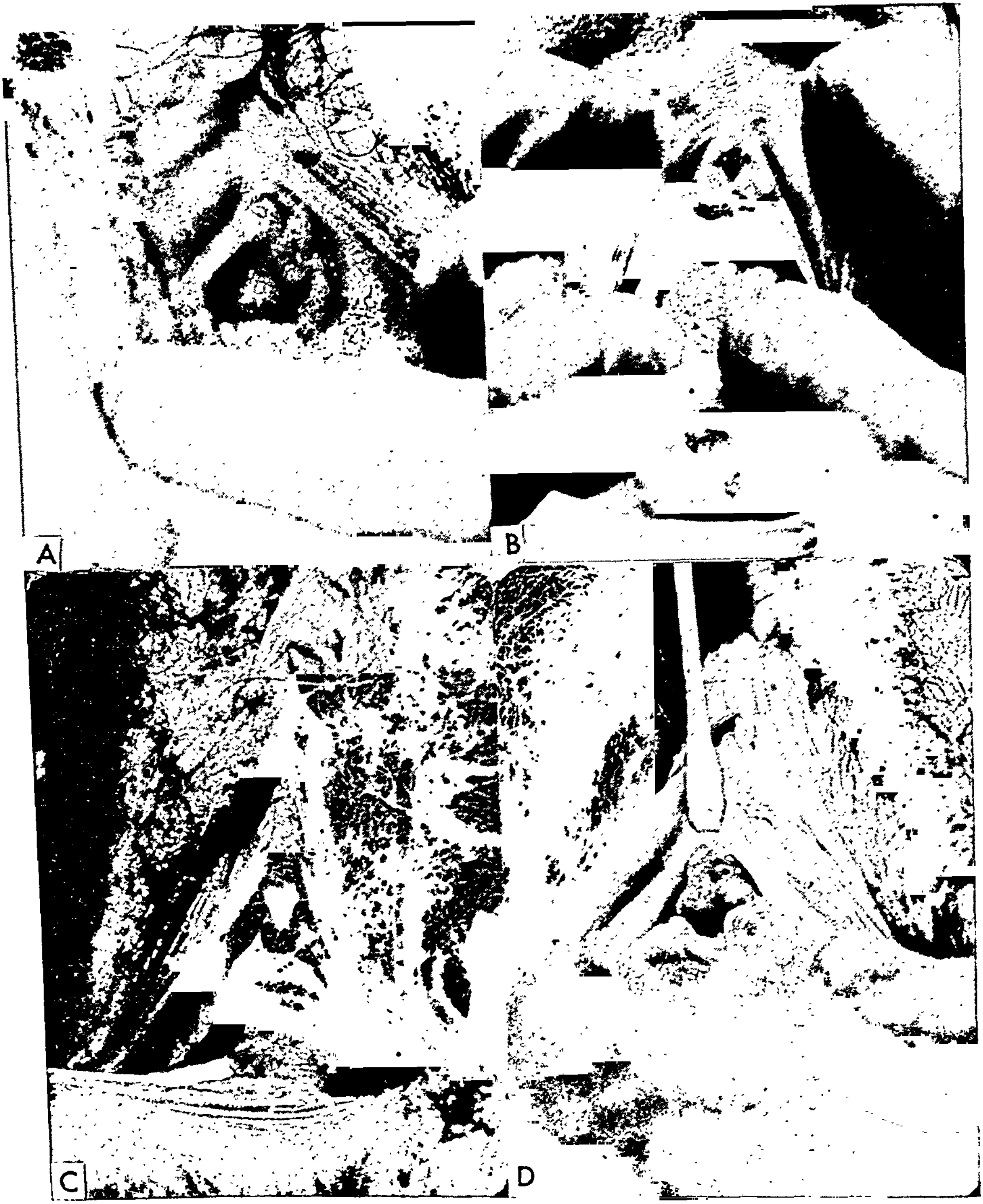

Fig. 1.—Inadequate rupture of hymen producing recurrent urinary symptoms in 4 patients. *A*, 22-year-old patient with pronounced dyspareunia and chronic vaginitis; *B*, 30-year-old patient without history of any gynecologic complaints; *C*, 43-year-old patient with mild dyspareunia and moderate leukorrhea; *D*, 58-year-old patient whose bladder symptoms had subsided soon after decision to stop coitus permanently because of dyspareunia. First 3 patients were operable; last-mentioned patient was beyond help.

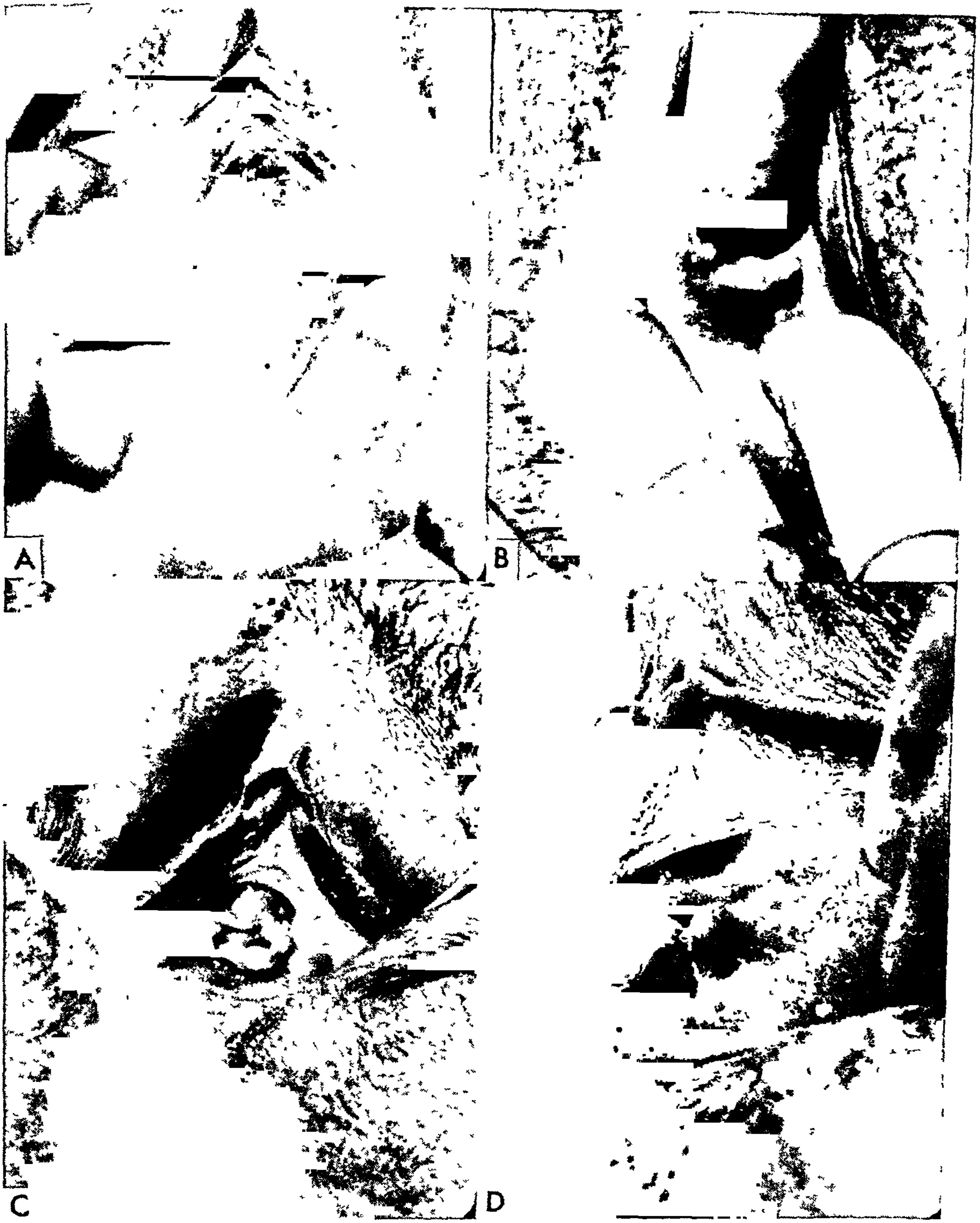

Fig. 2.—*A*, valance effect of inadequate rupture of hymen, masking relative hypospadias; *B*, stiff, epiglottoid posterior arc (note vestibulitis beneath); *C*, hood effect and entirely intact hymen in obese patient married fifteen years, with chronic complaints of discharge, itching, dyspareunia and cystitis; *D*, stiff broad-based polypi demarcated by thin, well-healed six-year-old scar resulting from episiotomy placed across prominent arc of hymen in a case of inadequate hymeneal rupture.

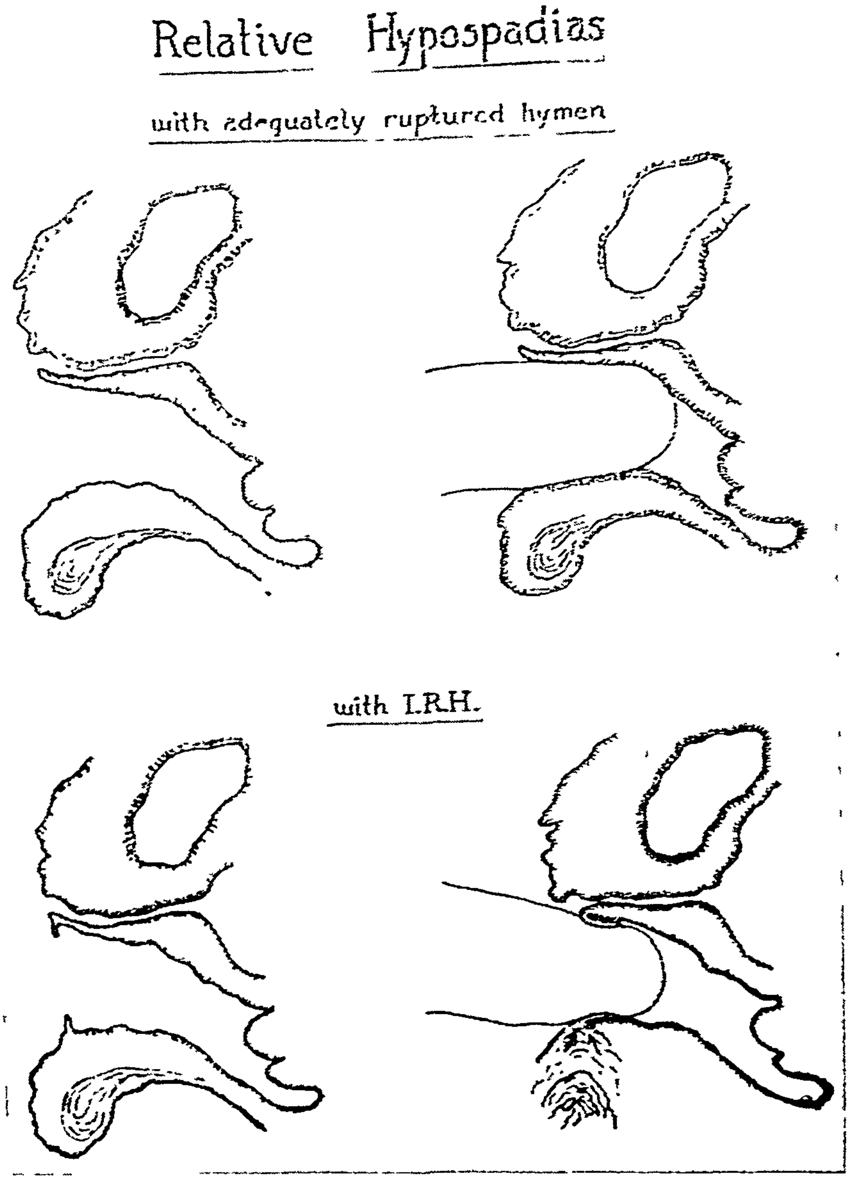

Fig. 3.—Mechanical effect of coitus on similar degree of hypospadias when rupture of hymen has been adequate and when it has not (see Figure 4). *IRH*, inadequate rupture of hymen.

eventually cause the deeper septum and ring to become clinically palpable structures, often years after there have been persistent clinical symptoms.

Estrogen deficiency from any cause aggravates inflammatory scarring by shrinkage and atrophy. In my opinion the clinical entity kraurosis in many instances actually represents an extreme example of inadequate hymeneal rupture in which centrifugal inflammatory scarring and centripetal menopausal shrinkage compound each other in producing contracture.

Recognition of inadequate rupture and

its effect on neighboring tissues is not facilitated by this dependence for progression and symptoms upon coitus and other conditions and signs. The subtlety of the condition in action is typified in its potentiation of relative hypospadias.

Inadequate Hymeneal Rupture and Relative Hypospadias.—Degrees of urethral descent that I should define as relative hypospadias can be seen by anyone who catheterizes a series of women. At times a significantly low level can be masked by the "valance" effect of a prominent suburethral hymeneal arc, which suggests that the meatus lies farther above the vagina than it really does. Any woman who has relative hypospadias has increased vulnerability to urethral fouling and trauma when she begins coitus. A snug introitus, a firm perineum, spastic sphincters and early sexual inaptitude all tend to increase smearing of the exposed meatus and bruising of the thinly padded urethral tube.

When the hymen is adequately ruptured early in active sexual life, symptoms of cystitis tend to be mild and to end quickly. Rarely, when the degree of relative hypospadias is pronounced and other forces (extreme female lordosis, gross obesity in either partner, or excessive knee-to-hip height in the male) tend to keep the penis forward against the urethra, there may be subsequent flareups, but instinctive compensatory positioning usually will correct for these forces if available posterior room for the penis has been prepared by adequate hymeneal rupture.

When rupture of the hymen proves inadequate, many problems of the honeymoon continue or increase. When a short arc of hymen is isolated by lacerations as a prominent suburethral flap, subsequent hypertrophy may develop it into a *tab.* Friction against a tab on the inward stroke of the penis can draw a low meatus downward and inward, until it lies at the level and in the plane of the anterior vaginal wall. The *reins* effect can distort the meatus even more during coitus, through longer arcs of hymeneal remnants on either side of the meatus, which exert a dorsolateral pull from opposite sides on any distention of the introitus. The *hood* effect of inadequate rupture develops indirectly when a significant arc of hymen remains intact posteriorly to act as a hem that prevents stretching of the vestibular and perineal skin. Pressure of the penis over the tight posterior sling thus formed, when transmitted through distinct labial folds to pull on the skin or mucosa lying above the meatus, creates a hood which on each stroke of coitus descends to smear the urethra.

Since there are as many degrees of inadequate rupture as there are degrees of relative hypospadias, combinations of the two may cause varying clinical pictures. At one extreme, gynecologic symptoms of inadequate rupture may be so severe that they overshadow urinary complaints or, paradoxically, prevent them by restricting intercourse and opportunity for involvement of the urinary tract. At the other extreme, gynecologic complaints may be absent and the patient may enjoy coitus at such frequent intervals that its importance as a cause of the recurring inflammations of the urinary tract is not suspected.

Even when gynecologic symptoms of inadequate rupture exist, they are not always incapacitating. Often improvement

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Fig. 4 (opposite).—Preoperative photographs of patient in Case 1. *A,* bruised urethral meatus and well-healed episiotomy scar (highlight on tented perineum) seen on gentle spread of labia. *B,* hood effect visible in mucosa between meatus and clitoris, created by traction on perineum and transfer of force through labia. Note similar curve of hymeneal arc outlined on vaginal side of meatus by same traction. *C* and *D,* increased degrees of same mechanical effect on increased traction and distention of introitus (see Figure 3).

A
B
C
D

during a postmarital adjustment phase of varying duration results in a tolerable degree of discomfort, which the patient assumes is "normal." Since this usually permits more coitus, urinary symptoms due to inadequate hymeneal rupture may then occur with greater frequency. Episiotomy, other perineal surgical procedures and the menopause are but three of many factors that can aggravate the gynecologic symptoms. If these do not become so severe that the patient practices abstinence, they may be followed by a resurgence of urethritis and trigonitis.

Obstetric delivery and the persistence or increase of inadequate hymeneal rupture are not as paradoxical as they seem. During the second stage of labor patients with inadequate rupture resist the stretching of the introitus until there is a sudden splitting or cutting at one point. This area then absorbs all of the force of distention (predisposing to third-degree tears), while preserving the hymen elsewhere. The lament "I was cut too deep and sewn too tight" strongly suggests underlying inadequate rupture. The menopause, in aggravating gynecologic and urologic symptoms of this inadequacy, also serves ominously to warn that time for the surgical correction of this condition is running out. If a patient is ever to undergo hymenectomy, the sooner the better. The earlier the operation, the less tissue need be disturbed, the more rapid is convalescence and the more nearly ideal the results. Paradoxically, if one waits until a hymenectomy is "necessary," it has sometimes become contraindicated by prolonged estrogen deficiency and extensive postinflammatory scarring. A check should be made for elements of inadequate rupture of the hymen before a patient is prematurely castrated, as in therapy for endometriosis. This can help prevent marital tragedies. Care should be exercised that the surgical approximation of well-separated, sometimes deep and unrecognized, hymeneal fragments in premenopausal vaginoplasty does not recreate hymeneal inadequacy in wives previously happy. Chronologically puzzling urologic histories of women often clear when considered in relation to the changing pathologic aspects of the hymen.

Diagnosis of Urinary Inflammation Induced by Inadequate Rupture of the Hymen.—This diagnosis is made by exclusion of all other cause and consideration of the dynamic effect coitus (or masturbation) might have on the particular combination of inadequate rupture and relative hypospadias the particular patient presents. The history often can determine whether any association exists between coitus and urinary problems. A commonly elicited but rarely volunteered complaint is intracoital or postcoital urgency of urination.

Inadequate hymeneal rupture is most easily visualized during spread of the introitus to 2 fingerbreadths. Inspection through a bivalved speculum tends to obscure the inadequacy, but observation of the meatus as the speculum is being inserted can be highly instructive. Every bimanual pelvic examination should include separate palpation of the trigone and the empty bladder, with the opposing vaginal and abdominal hands held forward of all pelvic genital organs. Transvaginal urethral palpation and stripping should be a part of every gynecologic and urologic examination.

Technic of Corrective Surgical Procedure.—The surgical cure of the established condition must include consideration of remnants of the hymen at all levels. A radial incision is made in the hymen from its free margin to the vaginal wall. Stretching the introitus provides access for submucus resection of a short but complete segment of the hymeneal ring, with the surrounding scar. Digital and instrumental search should then be made to make sure the ring has been severed. Further stretching and, if necessary, extension of the incision in the mucosa or skin

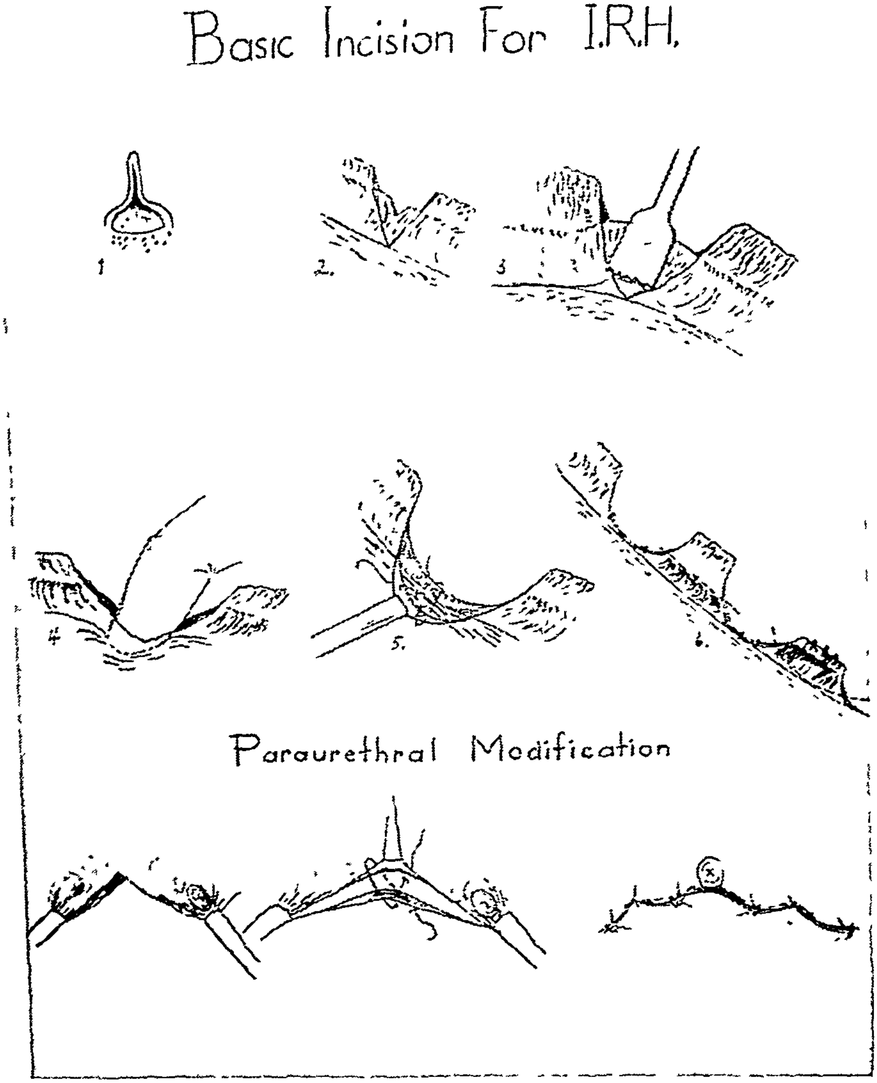

Fig. 5 (see description of surgical technic in text).—Cordlike structure shown in Step 3 is quite real but lies deeper than drawing suggests. It is best exposed by submucosal insertion and spread of a mosquito clamp beyond angle of larger V shown in Step 2. (*IRH*, inadequate rupture of hymen.)

is followed by closure of the resultant diamond-shaped defect after Heinecke and Mikulitz, in a line 90 degrees off the original incision, to form the margin of the new introitus. This basic incision is made at as many separate points as feasible. Six "gussets," gaining in the healed state ¼ inch (0.8 cm.) each, can add 1½ inches (3.7 cm.) of available slack to a tight orifice. This will leave alternate gaps and tags. The latter, especially when stiff, are best trimmed flush with the vaginal wall. The short segment of ring that underlies each tag usually will cause no further symptoms but, if prominent, can be milked up into the tag and excised with it.

The basic incision made on both sides

of a relatively hypospadic urethra through the hymen (and any of the wattle-like auxiliary arcs that may lie parallel to it) as far as the vaginal wall will destroy both tab and reins effects. Closure of these incisions after Heinecke and Mikulitz will cause snoutlike ventral rotation on healing and will elevate the meatus 0.5 to 1 cm., at which level it will remain during coitus, safe from contamination. On rare occasions, paraurethral hymeneal incisions alone, without other cutting, can relieve urinary complaints. It should be stressed that when paraurethral incisions only are made and significant parts of the hymen exist elsewhere about the introitus, the urinary symptoms may continue. If snugness remains, subsequent stretching of the paraurethral gussets during coital distention can create painful fissures.

A perineotomy in which care is taken to remove any existing deep hymeneal ring can provide additional vaginal caliber and prevent the hood effect. *Here, as in all surgical treatment of the condition, cutting and dissection should be bold. To compromise is to risk unfavorable results.* Fissures, lacerations and episiotomy scars should not be extended surgically. Nearly parallel V incisions placed close on either side of such linear scars will preserve the covering mucosa and skin. A deeper scar then can be undercut and resected sharply and widely until finger palpation reveals no induration. Transverse closure should be performed without tension.

Allis clips are ideal for holding the mucosa and grasping the hymeneal ring during its resection. Through-and-through figure-of-eight No. 0 chromic catgut gathering stitches serve to control bleeding and approximate the edges. Local infiltration with 1 per cent xylocaine or general anesthesia under sodium pentothal have been used. A Foley catheter and complete bed rest for five days, with simple perineal care and dry heat, promote comfort and healing. Prophylactic antibiotics and Demerol for pain relief have been used routinely.

Two weeks after the operation perineal exercises similar to those of Kegel[3] are begun, and inspection of the introitus is made weekly. Some wounds, especially those of perineotomy, tend to open. These were kept dry and painted with Negatan weekly. Continuation of perineal exercises has given as good results in these patients as those in whom primary healing occurred. In 3 instances (in all of which the patients were apprehensive and used their muscles poorly), severed fragments of the hymeneal ring apparently united. A single, forceful, broad (4-fingerbreadth) dilation with the aid of Demerol and intravenous nembutal, performed as an office procedure between the fourth and the sixth week, has restored and kept good caliber in these 3 cases.

When hypospadias is marked, instruction in pelvic inclination to insure that the penis rests in the available posterior space on inward stroke must be offered after healing is otherwise complete. Surgeons unwilling to supervise such instruction may see the results of an excellently performed surgical procedure jeopardized.

Before the pathologic picture of inadequate rupture is well established, less extensive, prophylactic surgical treatment will sometimes suffice. (As a general rule, however, it is better not to operate than to compromise the principles of deep and radical resection.) When early postmarital examination of an adolescent girl, *truly virginal at marriage,* reveals inadequate hymeneal rupture, multiple radial clipping of the hymen, broad forceful dilation of the introitus and "ironing out" of the perineum physiologically is sometimes enough to destroy the hymen. In my opinion, any therapy that preserves the hymen while dilating its orifice is valueless. Opportunity for prophylactic therapy does not extend far beyond marriage. *It should be emphasized that once inadequate* *hymeneal rupture is established, less than radical therapy can rarely help and may harm.* In a separate paper the intrapartum management of this condition will be discussed.

Results of Surgical Treatment.—Radical hymenectomy has been done approximately 150 times (for dyspareunia, vaginitis and inflammation of the lower part of the urinary tract). Six months after operation, questionnaires were sent to the first 75 patients. Of 70 forms known to have reached patients, 59, or 84 per cent, were answered. All claimed improvement. Twenty-two of these patients had had long-standing, chronic symptoms referable to the lower part of the urinary tract. The postoperative results in this group are expressed in percentage of improvement as estimated by each patient in a frank, unsigned appraisal. By 100 per cent improvement is meant complete freedom from symptoms for at least six months, without other therapy, either active or prophylactic. It is hoped that this method of review may prevent the subjective error of a surgeon's enthusiasm and through anonymity encourage honest criticism of a new technic.

Two cases are here reported in detail.

REPORT OF CASES

CASE 1.—J. N., a 29-year-old white housewife, para 1, gravida 1, entered the Rose de Lima Hospital in Henderson, Nevada, on June 23, 1958. The chief complaints were dyspareunia, nearly constant suprapubic pressure, intermittent low abdominal pain, recurrent urgency and frequency of urination and dysuria, all of nine years' duration. The patient had undergone appendectomy at the age of 14. She had no complaints until her marriage at the age of 20. Within a month thereafter the aforementioned complaints developed. Specific interrogation revealed that she had bled profusely at first coitus and had had severe pain with each coitus for weeks thereafter. Artificial lubrication and spacing of intercourse at intervals of several days had permitted her marriage to continue, but with tension.

Number of Patients with Chronic Urinary Symptoms	*Self-Evaluated Improvement, %*
12	100
1	95
6	80
1	60
1	40
1	(20 weeks pregnant—no change)

Several months after the marriage a laparotomy was done for "adhesions." At the age of 22 all symptoms disappeared while coitus was curtailed during a pregnancy. On resumption of coitus six weeks post partum, dyspareunia seemed to have increased and centered about the episiotomy scar. Three months later the left tube and a portion of the right ovary were removed. In another three months a dilation and curettement, with conization of the cervix, was performed. A second "D & C" was done one year post partum. At the age of 27 the patient underwent total hysterectomy, right salpingectomy and bilateral oophorectomy, and a regimen of oral estrogens was established. In retrospect, all of these operations were done for vague pain in the lower part of the abdomen, which each time disappeared during convalescences and reappeared soon after return to coitus. On return of the complaints three months after the last-mentioned operations, the patient was referred to the U.C.L.A. Medical Center in Los Angeles. A complete urologic work-up there showed only "pseudogranular trigonitis and urethritis." A gynecologic consultation "revealed an essentially normal pelvis post hysterectomy. further gynecological RX unindicated." When a course of vesical instillations and urethral dilations failed to give lasting relief, she was referred to me by the U.C.L.A. Urologic Staff for hymenectomy. Figure 4 shows the perineum at the time of admission to my care.

Radical hymenectomy, with resection of a deep but thin mediolateral episiotomy scar, was done on June 24. Cosa tetracin, 250 mg. four times daily, was given prophylactically for five days, during all of the time an indwelling catheter was used. Thirteen postoperative days of hospitalization were needed, because of the distance to be traveled on discharge. The follow-up consisted of a single visit for hip and muscle instruction one month after the operation, for the same reason.

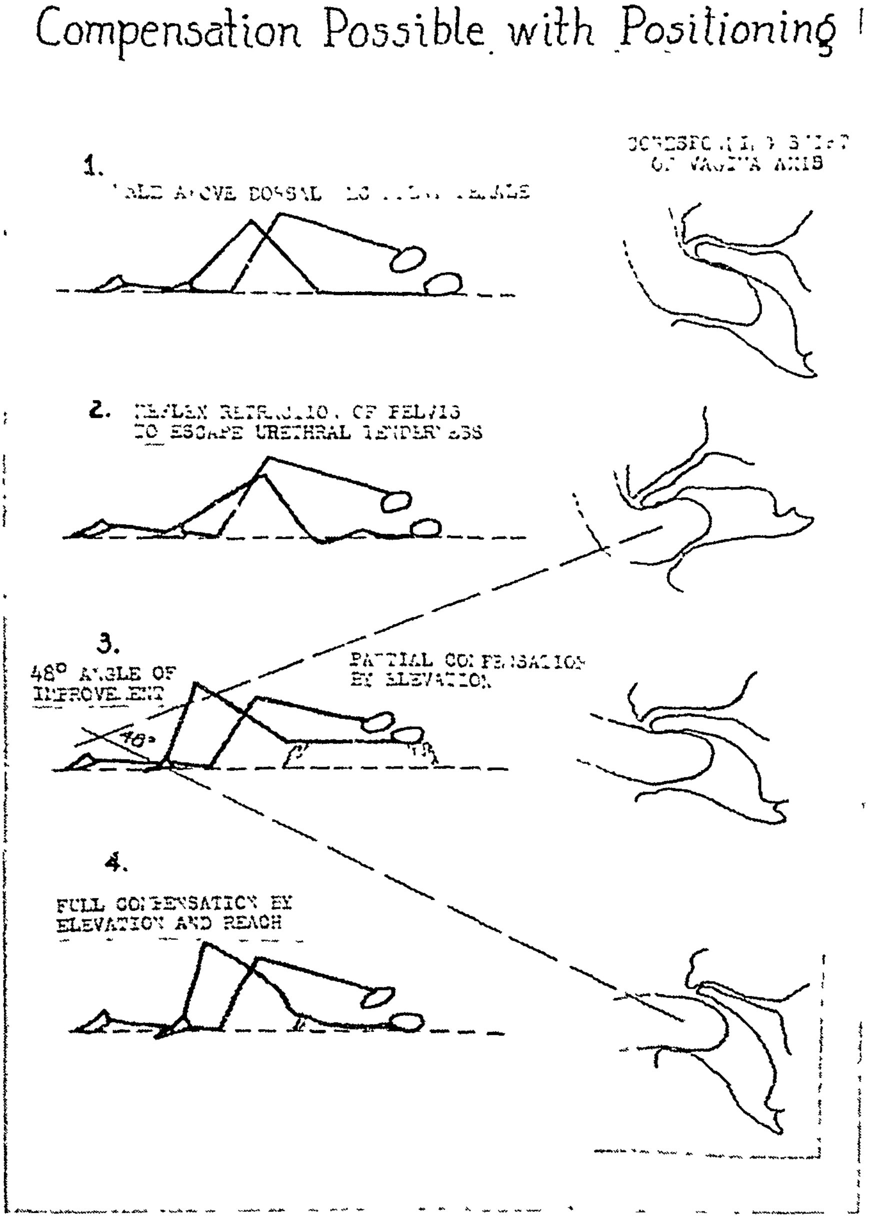
Compensation Possible with Positioning!
1.
MALE ABOVE DORSAL [illegible] FEMALE
CORRESPONDING SHIFT OF VAGINA AXIS
2.
REFLEX RETRACTION OF PELVIS TO ESCAPE URETHRAL TENDERNESS
3.
48° ANGLE OF IMPROVEMENT
48°
PARTIAL COMPENSATION BY ELEVATION
4.
FULL COMPENSATION BY ELEVATION AND REACH

Fig. 6—Compensation possible with position that makes sure penis will remain posterior in newly created space.

J. N. has been seen as an outpatient in the U.C.L.A. urologic department, for follow-up only, on three occasions since the operation. Without therapy other than hymenectomy she has remained asymptomatic for nearly a year, averaging intercourse three times a week and achieving orgasm 30 per cent of the time (in the nine years prior to this, climax on her part had never been reached).

Case 2.—G. A., a 24-year-old white professional prostitute, para 0, was admitted to the Southern Nevada Memorial Hospital on Sept. 25, 1958. The chief complaints were intracoital and postcoital urgency of urination of two years' duration and recurrent bouts of cystitis (approximately 16), which she herself thought related to coitus. Specific interrogation revealed that she had had no bleeding at initial intercourse, and since had considered herself "snug" but without dyspareunic complaints, save when coitus was attempted at times during which symptoms of cystitis already existed. The previous treatment, which had been orthodox and adequate, had always relieved urgency, frequency and dysuria promptly. Within a few days after return to coitus the symptoms would recur.

Investigation of the cause of the urinary difficulties had included a routine work-up by two local urologists and the urologist at the Sansun Clinic in Santa Barbara. These had been complete, with intravenous pyelograms, cystoscopic studies and, in 2 instances, retrograde studies. All observations had been "essentially normal" save for "chronic granular urethritis." Four urethral dilations at weekly intervals had been carried out in California, and a local urologist had carried the urethral dilations to 30 on four occasions. The patient was referred to me by this urologist for hymenectomy.

Preoperatively the patient abstained from coitus for two weeks and took 100 mg. of Furadantin four times daily for five days. Previously two courses of this drug had been used, with relief, but symptoms of cystitis had recurred promptly on the patient's return to work.

Physical examination revealed the patient to be attractive and well developed, weighing 118 pounds (53.51 Kg.), and normal save for a hypospadic urethra and a tough, insensitive, entirely intact, scant hymen surrounding a well-dilated orifice. The reins effect was pronounced and the urinary meatus patulous. Skeenes' glands, with pouting ostia, were prominent. Although digital examination revealed no hymeneal tenderness, there was increased sensitiveness of the urethra and the vesical neck on bimanual palpation. On September 26 the fourth intravenous pyelogram was called normal. Cystoscopic and retrograde study on September 27 revealed only "chronic granular urethritis and cystitis." Separate cultures of the bladder urine and that of the upper tracts showed no growth. Fulguration of the trigone and urethra was *not* done.

Radical hymenectomy was performed immediately after the cystoscopic procedure, with the same sodium pentothal anesthesia. An indwelling urethral catheter was removed on the fourth postoperative day, and the patient was discharged on September 30. During hospitalization, 250 mg. of cosa tetracin was administered prophylactically four times a day.

The patient was seen weekly from the second through the fifth postoperative week. During this period, instruction in muscle and hip exercises was given. Six weeks after the operation the patient entered a house of prostitution, where she worked, save for the three heaviest days of each menstruation, for the next six months. During this time, she estimates, coitus occurred more than 1,500 times. On June 15, 1959, she was seen again, and a pregnancy test gave positive results. Examination confirmed a normal intrauterine pregnancy of approximately ten weeks' duration. At this time the patient confirmed the fact that since the operation she had remained entirely free of urinary symptoms without active or prophylactic treatment of any kind.

Author's Note: Credit for photography in this article is due to my associate, Dr. O. H. Christofferson whose cooperation is warmly appreciated.

RIASSUNTO

L'inflammazione acuta del tratto urinario ascendente che si verifica nelle donne che iniziano la loro vita sessuale non è dovuta al caso o ad eccessi; vi sono delle particolari caratteristiche fisiche che predispongono certe donne alla comparsa del disturbo. Queste stesse caratteristiche si osservano in donne con lesioni croniche del tratto urinario inferiore. Viene descritto un metodo chirurgico che tien conto di queste osservazioni.

Sei mesi dopo l'intervento non si erano avuti segni di uretrite, trigonite o cistite recidiva in più della metà delle 22 operate. Dopo 6 mesi 19 su 22 di queste malate valutavano il loro grado di miglioramento all'80%.

RESUMEN

La infiamación aguda ascendente del tracto urinario en las mujeres que comienzan su vida sexual es cosani casualni muy frecuente. Algunas características fi-

sicas predisponen a algunas enfermas a estos trastornos. Más importante aún que estas mismas características se presentan en muchas mujeres con problemas crónicos de la porción baja del aparato urinario. Se describe una nueva técnica quirúrgica radical en relación con estas observaciones.

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Bei mehr als der Haelfte von 22 Patientinnen, die vorher chronische Beschwerden hatten, kam es zu keinerlie Rueckfaellen von Harnroehrenentzuendung, Trigonumentzuendung oder Blasenkatarrh innerhalb von 6 Monaten nach der Operation. 19 dieser 22 Kranken schaetzten die Besserung ihres Zustandes nach 6 Monaten auf mehr als 80 Prozent, ohne dass inzwischen eine weitere Behandlung stattgefunden hatte.

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Les inflammations aiguës du système urinaire ascendant chez les femmes au début de la vie sexuelle ne sont pas dues au hasard ou aux excès. Il est des caractéristiques physiques prédisposant certaines malades à ces troubles, et l'on retrouve ces mêmes caractéristiques chez un grand nombre de femmes présentant des troubles chroniques de la partie inférieure du système urinaire. Une nouvelle méthode chirurgicale radicale tenant compte de ces observations est décrite.

Six mois après l'opération plus de la moitié d'un groupe de 22 femmes se plaignant auparavant de troubles chroniques n'avaient présenté aucun symptôme d'uréthrite, de trigonite ou de cystite. Six mois plus trad, et sans traitement intermédiaire après l'opération, 19 malades sur 22 estimaient l'amélioration de leur état à plus de 80 %.

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Neurologic Surgery

Urevert in Cranial Trauma and Brain Surgery

Clinical Impressions

Z. E. TAHERI, M.D., F.A.C.S., F.I.C.S., D.A.B.
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MANY intracranial surgical procedures are difficult at best, and the problem of elevated intracranial pressure increases the hazard to the patient and the operative difficulties of the surgeon. Therefore, an agent which will reduce edema and swelling and make hitherto inaccessible areas subject to successful operative intervention without unnecessary destruction of normal brain tissue would be highly beneficial.

Evidence now exists that urea, a well-known compound, can effect a safe and highly useful temporary reduction of brain volume. The experience presented in this paper tends to confirm previously published reports[1] that lyophilized urea adadministered intravenously in the proper solution is superior to older methods of intracranial decompression.

Various methods have been used to decompress traumatized or edematous brain tissue, with but variable success. Drainage of cerebrospinal fluid is time-consuming and often hazardous and is not always effective. The usual hypertonic solutions have not been observed to effect a clinically satisfactory reduction of brain volume without side effects. Such solutions may produce a hypotensive effect initially, which is followed by a secondary rise in intracranial pressure that exceeds the original. The various diuretics now available have also been found unsatisfactory when optimal reduction of brain volume is indicated.

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there and in a subsequent study[3] in 1958 demonstrated that 30 per cent urea in invert sugar (Travert®) solution safely and effectively reduced intracranial and intraocular pressures in a wide variety of conditions. The composition of the medium proved to be important. Javid and Anderson[4] determined that the most satisfactory vehicle, and the one which did not consistently produce hemoglobinuria, was 10 per cent invert sugar solution. No toxic effects or significant side actions were observed when freshly prepared 30 per cent urea in invert sugar solution was used in doses of 1 to 1.5 Gm. per kilogram of body weight.

This agent has been used during the past ten months in the neurosurgical services at Samaritan and Mercy Hospitals. This report of my own experience and that of my colleagues with urea in invert sugar adds confirmation to the conclusions of Javid insofar as they apply to intracranial surgical procedures.

Procedures.—Thirty per cent urea in invert sugar solution was administered intravenously to 42 patients undergoing intracranial operations. The diagnosis and kind of surgical procedure are summarized in the accompanying table. The solution was administered in some patients to reduce intracranial pressure and prophylactically in others to circumvent the edema and swelling frequently associated with brain surgery. The agent is supplied as 90 Gm. of sterile, lyophilized urea in one bottle. The solvent, 210 ml. of 10 per cent invert sugar solution (Travert) is transferred from another container to the urea bottle by means of a sterile transfer set supplied with the unit.* Administration through an arm vein at a rate of about 60 drops per minute was begun approximately 30 minutes before craniotomy or as soon as anesthesia was instituted. This rate was slowed after the cranium was opened if there was good exposure. Javid's suggested dosage of 1 to 1.5 Gm. of urea for each kilogram of body weight was used as a guide to administration, but a second unit of 270 ml. was started if the procedure was long. This was discontinued prior to closure.

Anesthesia consisted of sodium pentothal alone or in combination with succinylcholine chloride, nitrous oxide or Demerol. Intravenous anesthetics were administered through the same administration set as the urea solution.

Since urea is a potent diuretic, an indwelling catheter was introduced into each patient before operation and left in place until normal urine flow was established. Diuresis usually began thirty minutes after the start of the infusion.

Results.—As is indicated in the accompanying table, the operations in which urea was used were fairly representative of those commonly encountered in neurosurgical practice.

Use of Urea in the Treatment of Intracranial Conditions: 42 Cases

Acute head injury with depressed skull fracture with laceration of the brain	7
Subdural Hematoma	
Acute	3
Chronic	2
Spontaneous intracerebral hemorrhage	1
Tic douloureaux	8
Intracranial aneurysm	2
Brain Tumors	
Astrocytoma	2
Medulloblastoma	2
Glioblastoma	3
Cerebellar hemangioblastoma	1
Cranioplasty	7
Cerebral contusion and cerebral edema	4

Exposure of the brain ranged from good to excellent in all patients. In those in whom there were signs of increased intracranial pressure before administration of the urea solution, the brain was usually observed at the level of the dura or slightly below at craniotomy. In those in whom no sign of increased intracranial pressure was evident, the brain was usually well below the level of the dura and sometimes more than 0.5 cm. below the inner surface of the cranium.

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*Available as Urevert (TM), Travenol Laboratories, Inc., Morton Grove, Illinois.

The reduction in brain volume facilitated surgical procedures in many cases and reduced the amount of damage to normal tissue below that which might have been expected without the benefit of urea. In the operation for tic douloureux I use an intradural approach exclusively. The use of urea has decidedly facilitated exposure of the gasserian ganglion with minimum manipulation of the temporal lobe. In cases of head injury, when fractures of the skull depressed sections of the cranium and caused laceration, exposure or protrusion of brain tissue, decompression or shrinkage of the brain with urea allowed repositioning of the encephalon and cranioplasty with minimum damage.

In the extirpation of brain tumors, reduction in volume of the enlarged brain resulted in better exposure of the neoplasms and lessened the damage to normal brain tissue ordinarily accompanying such procedures. In the 2 patients with ruptured aneurysms the use of urea permitted ready removal of the hematomas and clipping of the aneurysms.

In 1 case of cranioplasty, in which the patient had large cranial defects, two substantially identical operative procedures were performed, with and without decompression with urea. Discussion of this case may be permitted, since it so strikingly illustrates the value of this agent. Prior to the use of urea for intracranial decompression in this hospital, the patient was admitted for cranioplasty because of a left cranial defect. During the operation the brain began to expand, and it was necessary to reduce intracranial pressure by lumbar puncture. The total operating time was two hours and twenty minutes.

Recently this patient was readmitted for cranioplasty of the right side. In this operation urea was used, in accordance with the present practice. Cranioplasty was easily accomplished. No lumbar puncture was necessary. The operating time was fifty minutes.

In 1 case of acute subdural hematoma in which urea was used during the operation, the patient regained consciousness immediately after removal of the hematoma. Four hours later, however, he again became comatose and showed clinical signs of uremia. It was discovered that there had been an interruption in the intravenous replacement therapy (administration of 10 per cent dextrose in water), which had been instituted after the administration of urea, and the output of urine had dropped almost to zero. Immediately after intravenous administration of 5 per cent dextrose in water a copious flow of urine followed, and within twenty minutes the patient was quite alert.

COMMENT

Although the exact mechanism by which hypertonic urea solutions "work" requires further investigation, their effect in reducing brain volume appears to be primarily due to the osmotic pressure differential between blood and cerebrospinal fluid. Evidence produced thus far indicates that the decompressive effects of urea are not directly related to its diuretic action. Brain volume and cerebrospinal fluid pressure are reduced before diuresis occurs.

The diuretic effect of urea must be considered, however, since dehydration is possible with large or continuing administration of the agent. Adequate fluid and electrolyte replacement therapy should be instituted when indicated. In this series of patients the output of urine was watched carefully. Severely impaired renal function must be considered a contraindication.

No significant side effects were encountered. Pulse, respiration and blood pressure were not noticeably affected. There was no interference with anesthesia; no sign of increased intracranial pressure above preinfusion levels was observed, and no serious damage to the vein was encountered. A slight hardening of the vein for approximately 6 to 8 cm. proximal to the needle was noticed in a few instances, but no thrombosis or frank thrombophlebitis. Some tendency toward capillary oozing was evident. Severe dehydration in 1 patient was readily corrected by intravenous fluid therapy.

Use of the urea solution provided excellent exposure in all of the patients. I am convinced that it has tremendous value in reducing trauma to normal brain tissue, reducing the time of operation and contributing to a much smoother operative course. The use of urea for brain decompression often simplifies and extends the limits of neurosurgical procedures and, in some patients, proves to be life-saving.

ZUSAMMENFASSUNG

Bei zweiundvierzig Kranken wurde durch Anwendung einer dreissigprozentigen Harnstoffinvertzuckerloesung intrakranielle Dekompression erzielt. Das Verfahren gestattete eine ausgezeichnete Freilegung des Gehirns, vereinfachte die neurochirurgischen Eingriffe und setzte die Schaedigung des normalen Hirngewebes, die bei Operationen innerhalb des Schaedels haeufig vorkommt, auf ein Mindestmass herab. Es traten keine wesentlichen Nebenerscheinungen auf. Die mitgeteilten klinischen Erfahrungen scheinen Javid's Beobachtung, dass dieses Mittel zur intrakraniellen Dekompression der Anwendung anderer Verfahren weit ueberlegen ist, zu bestaetigen.

RÉSUMÉ

Une décompression intracranienne a été pratiquée chez 42 malades au moyen de 30% d'urée dans une solution de sucre interverti. Cet agent permet une excellente visibilité du champ opératoire, une technique chirurgicale simplifiée et diminue les risques de lésions des tissus cérébraux normaux. Aucun effet secondaire notoire n'a été relevé. Cette expérience clinique paraît confirmer l'observation de Javid, à savoir que cette méthode donne en général des résultats nettement supérieurs à ceux des autres techniques de décompression intracranienne.

RIASSUNTO

In 42 malati si ottenne una decompressione intracranica mediante l'uso di una soluzione al 30% di urea in zucchero invertito. Questa sostanza consente un'eccellente esposizione del cervello, semplifica l'intervento e riduce al minimo i danni sul tessuto cerebrale conseguenti alle manipolazioni. Inoltre manca di ogni effetto collaterale. L'esperienza acquisita sembra confermare le osservazioni di Javid secondo cui l'impiego di questa sostanza è in genere superiore a qualunque altro metodo di decompressione intracranica.

SUMARIO

A descompressão intracraniana foi obtida em 42 doentes submetidos ao uso de soluto de açucar invertido contendo urea a 30%. Este agente terapeutico promove excelente exposição do encefalo, simplifica os metodos neurocirurgicos e diminui o dano ao tecido cerebral durante a manipulação intracraneana. Não houve reações secundarias. A experiencia clinica confirma as observações de Javid de que o uso deste agente é muito superior aos outros metodos de descompressão intracraniana.

RESUMEN

En 42 enfermos se ha practicado la descompresión intracraneal mediante el empleo de urea al 30% en solución azucarada. Este medio permite una excelente exposición del cerebro, simplifica los procedimientos neuroquirúrgicos y reduce las lesiones del tejido cerebral sano que ocurren amenudo incidentalmente en la manipulación intracraneal. No se han producido efectos colaterales de importancia. La experiencia clínica parece confirmar la observación de Javid de que el uso de esta sustancia es con mucho superior a todos los demás métodos conocidos para la descompresión intracraneal.

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What a patient should be told depends on the patient's personality. The personality make-up of the patient may be misjudged by the physician. To complicate matters, the patient's nearest of kin may insist on modifying what the physician may be convinced is the proper thing to tell the patient.

My experience has led me to the firm opinion that the patients who want to know will either ask the physician questions so directly that no evasive answer is possible. or make it their business to find out from some other source. The patients who should not be told that they are suffering from a malignant disease are. in effect. those who do not wish to be told. Perhaps the best rules to follow are: not to offer any voluntary opinions and to make the answers fit the patient's questions. This. I am sure. can be done without lying. in the way one answers a child when he becomes curious about sex.

—*Davidoff*

Obstetric and Gynecologic Surgery

Suppression of Lactation with Single-Dose Hormone Medication

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A CONSIDERABLE experience with various preparations for suppression of lactation and prevention of postpartum engorgement of the breasts indicates that five characteristics are fundamental to the ideal agent: (a) it should be effective on administration at any time before the actual onset of engorgement; (b) it should be able to suppress congestion and pain promptly when given too late to check engorgement; (c) it should permit any mother to nurse should she change her mind "in midstream"; (d) its use should not be associated with prolonged or withdrawal bleeding, with delayed or recurrent congestion or discomfort of the breast or with the delayed onset of normal menstruation, and (e) its administration should not seriously inconvenience the nursing personnel.

Estradiol valerate, in regular or concentrated formulations, given intramuscularly in a single dose of 20 to 30 mg. to patients in active labor or recently delivered, will effectively suppress postpartum lactation and recurrent engorgement of the breasts. Withdrawal or excessively prolonged bleeding is rarely a problem at this dose level, and an early return of normal menstruation may be anticipated. Estradiol valerate has many of the attributes of the ideal suppressant and was the preferred agent among those tested during this investigation.

The use of a long-acting proestrogen has been reported.[1] Although this substance was quite efficient when administered properly, multiple doses were required, starting soon after delivery. Technical difficulties, including the varied schedules for medication at each hospital, were sufficient to produce irregular results. The early institution of adequate medication required for successful treatment was haphazard rather than a routine measure. It has been noted that when a sufficient amount of an effective agent is given soon enough and treatment is adequately prolonged, suppression of lactation is immediate and invariably satisfactory.[2] To assure optimal medication with regard to the dose and the time of administration, suppressive agents are best given at the time of delivery and before the patient is removed from the table to be returned to her room. A few

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TABLE 1.—*Results of Single-Dose Hormone Medication for Suppression of Lactation*

	Delestrogen			*Deladumone*				*Delatestryl*
Potency	*X 1* Service	*X 1* Private	*X 4* Private	*X 1* Service	*X 2* Service	*X 1* Private	*X 2* Private	*X 1* Private
Patients treated, total	57	71	68	38	50	31	30	5
Patients not followed up	18	....	. ..	9	28	. ..	....	....
Patients included in report	39	71	68	29	22	31	30	5
Patients who began nursing								
In hospital	8	3	4	6	4	0	0	0
At home	3	0	1	2	0	0	0	0
Patients who failed at nursing	2	0	0	3	0	0	0	0
Symptoms with suppression								
Immediate:								
Leakage	3	3	4	9	2	9	5	3
Pain and/or congestion	2	4	8	5	2	7	3	3
Delayed:								
Leakage	2	1	1	1	3	2	2	3
Pain and/or congestion	2	2	0	1	1	0	1	0
Symptomatic patients, total	5	6	9*	12**	5	13**	7	5
Patients with bleeding more than 3 weeks post partum	13	24	29	7	7	11	8	2
Patients with first menses not more than 6 weeks post partum	15	46	37	10	12	19	12	3
First menses not reported at 6-8 weeks (service only)	16	. .	.	12	10	....	.. .	....
Ratio of prolonged bleeding to early first menses	0.81	0.52	0.78	0.7	0.58	0.58	0.67	0.67
Ratio of symptomatic patients to patients included in report	0.13	0.08	0.14	0.41	0.23	0.39	0.23	1

*8 of these received 0.5 ml. of concentrated Delestrogen.

**23 of these were given 3 ml. of Deladumone instead of the optimal 4.0 cc. dose.

patients have been treated during the first or second stage of active labor with adequate clinical benefit and no demonstrable untoward effects.

Long-acting esters of the naturally-occurring testicular and follicular steroid hormones† were made available in late 1955 for further investigation of single-dose prevention of lactation and mammary engorgement. These included the estrogen estradiol valerate, the androgen

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†Long-acting sex steroids were furnished through the courtesy of Dr. E. C. Reifenstein Jr., Associate Medical Director, Squibb Institute for Medical Research, New Brunswick, New Jersey.

Delestrogen:	10 mg. estradiol-17-B-n-valerate per milliliter in sesame oil.
Delatestryl:	200 mg. testosterone-17-B-n-enanthate per milliliter in sesame oil.
Deladumone:	A mixture of Delestrogen and Delatestryl containing 4 mg. estradiol valerate and 90 mg. testosterone enanthate per milliliter.
Es-31-53-8:	Quadruple strength Delestrogen containing 40 mg. estradiol valerate per milliliter.
Deladumone 2x:	Double strength Deladumone containing 8 mg. estradiol valerate and 180 mg. testosterone enanthate per milliliter.

testosterone enanthate and a balanced combination of the androgen and estrogen. A number of clinical studies have demonstrated the efficiency with which a single injection of the androgen-estrogen combination suppresses lactation, relieves engorgement of the breasts and controls pain without interference with normal physiologic adjustments after parturition.[8] A more concentrated estrogen and estrogen-androgen mixture were furnished in 1957 and 1958 respectively. The series reported in this communication include these various preparations. The drugs were injected by the "Z" technic deep into the gluteal muscle. When the concentrated materials became available, these supplanted the more dilute forms. Both private and hospital service patients were treated during this study. The concentrated estrogen was used only for private patients, while the androgen-estrogen concentrate was given to both groups.

Method.—During this investigation 350 patients were given single-dose hormone treatment for suppression of lactation. Estrogen in regular or concentrated preparation was administered in 196 cases, regular or concentrated androgen-estrogen combination in 149 cases and androgen alone in 5 cases. A further distribution is presented in the accompanying table. In an initial series, service patients with odd hospital numbers were given 20 mg. (2 ml.) of the estrogen, whereas those with even numbers were given 3 ml. of the androgen-estrogen combination. For the most part, private patients were given 20 mg. of estradiol valerate. A few were given the androgen-estrogen preparation and only 5 the androgen alone. In a second series, treated when the concentrated material became available, private patients were given 40 mg. (1 ml.) of the estrogen or 2 ml. of the androgen-estrogen combinations; the last-mentioned dose is equivalent to 4 ml. of the original mixture. Service patients were given only 2 ml. of the concentrated androgen-estrogen combination.

It was noted that prolonged bleeding occurred after the use of 40 mg. of estradiol valerate. When the dose was reduced by half the effectiveness of the medication was lost, probably as a result of an uncalculated loss of high potency material in the large needle. When 0.75 ml. was given, with use of a tuberculin or insulin syringe and a 20-gauge needle, the results of treatment improved immediately. Twenty-seven patients in the first series could not be traced, and 28 in the second group were lost through "reporting" errors. All other cases are included in this communication.

Results.—The results achieved in the 350 cases treated with the various hormonal preparations are reviewed in the accompanying table. Complete follow-up was possible with 295 of these patients. In the evaluation of results, the ratio of prolonged bleeding (over three weeks) to early menstruation (not over six weeks post partum) and the ratio of symptomatic patients to the total number were determined. There is no statistical difference between the treatment groups according to the first index (bleeding), but there is an appreciable decrease in patients with symptoms in whose cases the estrogen preparations were used. Of the 58 patients who were given 0.5 ml. or more of concentrated estradiol valerate there was only 1 with undesirable breast symptoms; delayed leakage occurred in this patient. The symptom ratio for these 58 patients is 0.017, the best in the series. A greater number of patients in the estrogen groups, however, showed a tendency to prolonged bleeding than did patients treated with the androgen-estrogen combination. Ten patients were given 1 ml. of the concentrated estradiol valerate bled for more than three weeks post partum. The figures given in the table represent the total for the entire group. It is our impression that, when estrogen is given to suppress lactation, approximately 25 mg. of estradiol valerate will answer the needs of most patients, with a minimal incidence of unsatisfactory results.

Results with the concentrated androgen-estrogen combination were more favorable than those obtained with the regular formulation, probably because of the increased effects of larger amounts of the hormones. Statistically, however, the benefits of the two concentrations were almost identical. The androgen alone proved most unsatisfactory of all the hormone preparations appraised. All of the androgenized patients, as well as many of those given smaller amounts of the androgen-estrogen combination, had a brief and symptomatic period of engorgement of the breasts while hospitalized. Forewarning these patients did minimize their symptoms, although galactorrhea was occasionally prolonged.

Nineteen patients given estrogen and 12 given the androgen-estrogen mixture nursed their infants after administration of the prophylactic steroids. Five nursing mothers discontinued feeding because of inadequate milk, but six "dried" mothers started nursing after their discharge from the hospital. In these cases the result was classified as failure in the suppression of lactation, since nursing was instituted when filling of the breasts occurred after discharge from the hospital. Despite hormonal treatment, the 31 mothers were all able to nurse their newborn infants.

COMMENT

The definition of what constitutes failure to suppress lactation varies with every patient and every physician. In the opinion of the average patient immediate painful engorgement means failure, and yet, when patients are told ahead of time that a brief period of engorgement may occur, they overlook its presence unless the symptoms are severe. All patients consider recurrent or delayed engorgement a failure of therapy, while leakage, unless excessive, is almost completely disregarded. When withdrawal bleeding occurs after the administration of estrogens for suppression of lactation, this is often mistaken by the patient for the first menstrual period, and she may then be upset by the next "early" period or the prolonged amenorrhea after such an incident. Prolonged bleeding can be troublesome when loss of blood is a critical factor or when the prolonged wearing of protective materials is irritating.

The physician, on the other hand, is disturbed only when the patient is concerned and complaining. Most often this is because of original or recurrent congestion. During this appraisal the presence of all symptoms, immediate or delayed leakage, pain and/or congestion, were considered unsatisfactory results. Similarly, the relation of normal early menstruation—that is, the first of continued cyclic periods—to prolonged postpartum bleeding or oozing—was also evaluated. In our opinion the persistence of bleeding is not necessarily an indication of overestrinization, since it occurred in patients treated with androgen alone. This may well be evidence of the lack of oxytocic stimulation to the involuting uterus in the non-nursing mother. It should be pointed out that 13 private patients treated with various hormone preparations in this series have been delivered a second time and that 15 others are pregnant at the time of writing. This easy recurrence of pregnancy is evidence that early ovulation and repeated pregnancy have not been prevented by single-dose hormonal medication.

SUMMARY

The results in 295 private and service patients given one injection of varying

doses of long-acting estrogen, androgen or an androgen-estrogen combination for the suppression of postpartum engorgement of the breasts is reported in this communication. The ratio of prolonged bleeding to early menstruation was slightly greater in the group given estrogen, but other symptoms were less evident when estrogen was administered. Approximately 25 mg. of estradiol valerate is the preferred level of medication in our opinion. Twenty mg. of the dilute material is satisfactory, but the chance of critical losses in the needle or through the injection track make larger doses of the concentrate mandatory. Doses exceeding 30 mg. of estradiol valerate may lead to prolonged bleeding. In our experience, the addition of an androgen to estrogen increased the size of the injection without improving the results. Androgenic therapy, with or without added estrogens, was associated with an increased amount of breast leakage. In general, patients have been well pleased with the fact that a single injection is given before they are removed from the delivery table.

CONCLUSIONS

L'administration d'oestradiol ("Oestradiol valerate") en une seule dose de 20 à 30 mg par voie intramusculaire durant le travail de l'accouchement ou après celui-ci, supprime efficacement la lactation postpartum et l'engorgement récurrent des seins. Cette dose ne provogue que rarement une hémorragie excessivement prolongée, et un retour normal des menstruations peut être prévu. Les qualités de ce produit ont i incité les auteurs à lui donner la préférence *sur tous les autres étudiés* au cours des recherches ici présentées.

RIASSUNTO

Il valerato di estradiolo, semplice o concentrato, somministrato per via intramuscolare in una singola dose di 20-30 mg a donne in travaglio di parto o nel postpartum è molto efficace nel sopprimere la lattazione e l'ingorgo mammario recidivo. Con questo dosaggio molto raramente si provoca un prolungamento dell'emorragia, e si anticipa in ritorno delle mestruazioni normali. Questo farmaco è per molti aspetti ideale ed è il migliore di tutti quelli sperimentati.

SCHLUSSFOLGERUNGEN

Eine einezelne intramuskulaer verabreichte Dosis von 20 bis 30 mg valeriansauren Estradiols in regulaerer oder konzentrierter Form fuehrt bei Patientinnen, die sich in den Wehen befinden oder kuerzlich entbunden haben, zu einer wirksamen Unterdrueckung der Milchbildung und der rueckfaelligen Schwellung der Brueste. Bei dieser Dosis kommt es kaum zum Problem ausgedehnter Blutungen, und es kann mit einem fruehzeitigen Wiederauftreten der normalen Menstruation gerechnet werden.

Valeriansaures Estradiol hat viele Eigenschaften eines idealen Hemmungsmittels und wurde waehrend der hier berichteten Untersuchung gegenueber anderen einer Pruefung unterworfenen Mitteln bevorzugt.

CONCLUSIONES

La administración intramuscular de una sola dosis de 20 a 30 mgr. de valerato de estadiol en preparaciones regulares o concentradas durante el parto e inmediatamente después de él suprimen efectivamente la lactación post partum y la congestión recurrente de las mamas. Raramente constituye un problema la supresión de una hemorragia excesivamente prolongnada con altas dosis y por otra parte puede anticiparse la reaparición de una menstruación normal.

El valerato de estadiol cumple muchas de las exigencias de un supresor ideal y

es la sustancia preferida entre cuantas han sido ensayadas en estas investigaciones.

CONCLUSOES

O valerianato de estradiol administrado intramuscularmente na dose de 20 a 30 mgrs. nos gestantes em trabalho ativo ou nas puerperas recentes suprime a lactação e o engorgitamento dos seios. O sangramento é raramente observado nessa dose e a menstruaçã pode ser antecipada. Esse medicamento provou ser ideal e foi o agente preferido durante esta investigação.

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Reverence for the physician has been characteristic of the Jewish people throughout the centuries. During the Middle Ages Jewish physicians were highly respected and sought out, even by the adversaries of Judaism and Jewry, and they served to introduce into the Western world much of the scientific knowledge current among Arab physicians and scientists. It is not surprising therefore that the patient in the Jewish community should lean upon the ministration of the physician or surgeon. He takes it for granted that the doctor is seeking to do all in his power to cure him or to prolong his life. Moreover, the patient wishes to believe that his doctor will not needlessly cause him distress of spirit or fatal anxiety.

Thus in the Midrash, the ancient homiletic exegesis of the Torah (the Holy Law of Jewish tradition), we find the words:

> Even when the physician sees that death is approaching, he still says to the patient, "Eat this and abstain from that; drink this, and not that": but he does not say, "Your end is near."

—*Newman*

Conservation of the Limb in Surgical Treatment of Tumors of the Long Bones

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Certain tumors of the long bones, such as osteoclastoma, angioendothelioma, adamantinoma and cartilagenous and osseus or fibrous tumors, when they show early malignancy or are inherently of low malignancy, should be treated by segmental resection and massive autogenous bone grafting.

An autogenous biflanged graft removed from the tibia is especially recommended for bridging the gap in weight-bearing long bones, because of its capacity to withstand high breakloads with various stresses.

DEATH of limbs, damage beyond repair, and primary malignant tumors are triple indications for amputation of a limb. In the third category are tumors that belong to the borderline group; neither their clinical history nor their pathologic features as revealed by biopsy can always label them definitely as innocent or ominous. Examples include osteoclastoma, angioendothelioma, adamantinoma, osteogenic and nonosteogenic fibroma with malignancy, etc. Divergence of opinion exists with regard to the methods of treatment available, e.g., curettement, local excision, radiotherapy, segmental resection and amputation.

In a number of cases radiotherapy is advocated as the method of choice. After several years, however, a nidus of tumor tissue often starts growing again, and then operation is the only expedient. Operation with preoperative or postoperative radiotherapy is usually condemned, owing to the risks of postoperative indolence in healing and of osseous necrosis. Osteoclastoma is an example of this.

Benign tumors with much damage to the structure of the host bone present a similar problem. Even local curettement or excision leaves too little of the shaft to be relied upon for weight bearing.

When the long bones of the extremities are affected, segmental resection, as employed in local mastectomy for carcinoma of the breast, may be considered, but even this method is beset with problems, such as maintenance of the limb's length, particularly if it is the leg, preservation of adequate strength for weight bearing, and mobility if the area near a joint is involved.

Resection. — The problems of ablation may be resolved in the following ways:

1. By removal of the tumor, leaving a surrounding zone of healthy tissue, with

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the least disturbance of anything adherent to the tumor mass;

2. By preservation of an adequate blood and nerve supply after resection;

3. By reconstruction with a bone graft, the length of the limb being preserved as far as possible;

4. By reconstruction of the joint if possible;

5. By designing the graft so as to permit early controlled use of the weight-bearing limb, even in cases in which the bridging is of considerable length, and also to satisfy the requisite of the graft's surface "take," limiting immobilization to not more than three or four months.

Excision of the Joint.—Removal of the neighboring joint may be necessary in the following circumstances:

1. When the fragment of the shaft left near the joint is too small to insure adequate fixation of the graft. Even with such fixation the chance of "take" is small, owing to inevitable movement in the immediate vicinity.

2. When weight bearing is difficult, particularly in a joint as unstable as the knee.

3. When power is insufficient because of too great muscle loss.

4. When removal of the tumor necessitates excision of the joint.

Graft. — The autogenous, angulated, biflanged tibial graft has been chosen as ideal for the following reasons:

1. Its relative strength, as determined by the polytechnic machine, shows this to be the strongest of all types of graft. It can bear weight long before the whole of the massive graft is incorporated with the host.

2. The uncertain "take" of the homogenous graft makes the autogenous type preferable.

3. "End-on" weight bearing is more reliable than lateral weight bearing through the fixation screws. To achieve this, plate-like flanges in continuity with the interposing portion are fixed to the host as inlay or onlay pieces, while the whole of the angulated, biflanged portion accurately fits between the cut ends of the recipient shaft.

4. Surface "take" at the ends is improved by autogenous chips removed from the upper end of the tibia.

Regional Considerations. — Upper End of the Humerus: Osteoclastoma is common at this site. This is a less formidable problem in the early stages than in late ones, when the joint has been involved and/or pathologic fracture is present. Section of the acromion and turning down the deltoid lid with the nerve supply intact will expose the joint at its upper aspect. Section of the coracoid at its middle and pushing it medially takes away the neurovascular bundle, and the two nerves, radial and circumflex, coming from the lateral and posterior aspect of the bundle are identified. The long heads of the biceps and triceps, teres major, latissimus and pectoralis major muscles are identified and divided, some close to their point of insertion and clear of the tumor mass. Short rotators and abductors, e.g., the supraspinatus, infraspinatus, teres minor and subscapularis muscles, are divided around the neck of the scapula, and their cut edges are erased to clear the neck a little proximal to the capsular attachment. The humerus is divided 2 inches (5 cm.) below the tumor, usually just above the point of insertion of the deltoid. The neck of the scapula is sectioned with a Gigli saw, with precautions concerning the circumflex nerve in its immediate vicinity. With the touch of a sharp scalpel the tumor, with the intact joint, is removed. An autogenous angulated biflanged graft, removed in the meantime from the tibia, is fixed to the shaft with screws. The proximal end is buried in the cancellous tissue of the neck of the scapula after having been remodeled into a spike. It is difficult to retain this, owing to the distracting effect of the weight of the limb, so it is better to leave it alone and to have a false joint, in which case remodeling of the end is not necessary. Postoperative function is surprisingly satisfactory in proportion to the mutilation. A patient operated on four years prior to the time of writing, for osteoclastoma, Grade II, of the upper end of the right humerus, is now a technologic engineering student in applied physics. Apart from limitation of abduction and flexion to 45 degrees, he has enough strength to carry on his duties with his right hand and arm. The fact that the upper end is behind and above the coracoid process does not have any pressure effect on important structures. There is no local recurrence.

[illegible] End of the Radius: This is not [illegible] types of operation can be done: [illegible] of the joint after removal [illegible] row of carpus with the [illegible] tumor mass, or (2) grafting [illegible] end of the fibula in the re- [illegible] results can be obtained with [illegible]

[illegible] Tumors of the ulna [illegible] by l[illegible]

mov[illegible]
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stresses.

Upper End of the Tibia: The patient previously referred to had an osteoclastoma, Grade II, with multiple sinuses following an attempt at earlier operation for biopsy elsewhere.

The approach is through a longitudinal incision. The skin, with the soft tissues, is dissected from the tumor mass, special care being taken of the common peroneal nerve. The patellar tendon is severed at the lower [illegible] the bone and the capsule inci[illegible] joint line. The cruciates are sev[illegible] ula is cut through as ne[illegible] ssible. [illegible] or til[illegible] d at [illegible] end o[illegible] bia [illegible] ili [illegible]

The patient was operated on in 1951 and is now active, with no local recurrence.

Lower End of the Tibia: Tumors at the lower end of the tibia, as in 1 of my cases, bring out the problem of adequate fixation of the graft at the lower end to insure bony fusion. Even the slightest movement at the ankle while it is in plaster will result in movement at the site of section, and this may end in delayed union or even nonunion. In the circumstances, it is advisable to abolish the ankle joint in the 5-degree equinus of the ankle. This not only helps adequate fixation of the distal end of the graft but effects complete immobilization. The graft used in this case was taken from the opposite fibula.

Postoperative Care.—The limbs are immobilized in plaster, the joints above and below being incorporated. A periodic checkup is necessary for union. When the ends show union with the host, the patient is allowed controlled movements and weight bearing. In the majority the graft is gradually taken up, as can be seen by its irregular margin, the central portion being the last to be incorporated with the host.

CONCLUSOES

Refere-se a certos tumores ósseos como os osteoblastomas, angioendoteliomas, adamantinomas e tumores fibrocartilaginosos. Quando mostram malignidade inicial ou são de baixo grau de malignidade podem ser tratados pela resescção massiça seguida de enxêrto ósseo. Recommenda um enxerto obtido da tibia preenchendo a falha óssea.

CONCLUSIONES

Se trata en este trabajo de ciertos tumores de los huesos largos tales como el osteoclastoma, el angioendotelioma, el adamantinoma y los tumores cartilaginosos o fibrosos. Cuando tales tumores muestran malignidad precoz o son de malignidad discreta deben ser tratados por la resección segmentaria masiva y el ingerto óseo autónomo.

Un ingerto autógeno tomado de la tibia es especialmente recomendable para suplir la pérdida de substancia entre los dos extremos óseos sanos, lo que permitirá soportar bien la carga de peso en cuanquier eventualidad.

CONCLUSIONS

Certaines tumeurs des os longs—ostéoclastomes, angio-endothéliomes, adamantinomes, tumeurs cartilagineuses, osseuses et fibreuses, sont décrites. Lorsqu'elles sont précocément malignes ou d'emblée bénignes, le traitement devrait consister en une résection segmentaire avec autogreffe osseuse massive.

Une autogreffe à double bride prélevée sur le tibia est particulièrement recommandée afin de franchir les bords de la brèche pour les os longs supportants de grands poids, en raison de son pouvoir de résistance à des poids excessifs.

SCHLUSSFOLGERUNG

Gewisse Tumoren der langen Knochen wie Osteoklastome, Angioendotheliome, Adamantinome und knorplige oder knöcherne Fibrome sollten, wenn sie frühe bösartige Veränderungen aufweisen oder wenn sie von Natur nur von geringgradiger Malignität sind, mit segmentärer Resektion und massiver Transplantierung autogenen Knochens behandelt werden.

Zur Überbrückung des Defekts in langen Knochen, die einer Gewichtsbelastung ausgesetzt sind, empfiehlt sich besonders ein doppelflanschiges Transplantat aus der Tibia des Patienten, weil dieses eine besondere Widerstandsfähigkeit gegenüber hohen Bruchbelastungen aufweist.

tain this, owing to the distracting effect of the weight of the limb, so it is better to leave it alone and to have a false joint, in which case remodeling of the end is not necessary. Postoperative function is surprisingly satisfactory in proportion to the mutilation. A patient operated on four years prior to the time of writing, for osteoclastoma, Grade II, of the upper end of the right humerus, is now a technologic engineering student in applied physics. Apart from limitation of abduction and flexion to 45 degrees, he has enough strength to carry on his duties with his right hand and arm. The fact that the upper end is behind and above the coracoid process does not have any pressure effect on important structures. There is no local recurrence.

Lower End of the Radius: This is not rare. Two types of operation can be done: (1) obliteration of the joint after removal of the proximal row of carpus with the joint and the tumor mass, or (2) grafting in the upper end of the fibula in the reverse. Good results can be obtained with either.

Ulna and Fibula: Tumors of the ulna and the fibula are easily dealt with by local excision. Primary replacement by bone grafting is not necessary unless the tumor involves the whole of the upper end of the ulna or lower end of the fibula.

Tumors in the lower end of the femur and the upper, middle and lower segments of the tibia are of considerable importance, owing to the fact that these are primarily weight-bearing bones. Not only must segmental resection be done, but primary autogenous bone grafting is essential to bridge the gap. The graft should be of sufficient strength to bear weight. Preservation of the joint is a tricky problem. Generally speaking, it is better to sacrifice mobility for stability to insure a proper gait without limping.

Upper End of the Tibia: The patient previously referred to had an osteoclastoma, Grade II, with multiple sinuses following an attempt at earlier operation for biopsy elsewhere.

The approach is through a longitudinal incision. The skin, with the soft tissues, is dissected from the tumor mass, special care being taken of the common peroneal nerve. The patellar tendon is severed at the lower border of the bone and the capsule incised in the joint line. The cruciates are severed. The fibula is cut through as near the joint as possible. The anterior tibial artery, identified at the upper end of the interosseous membrane, is pushed laterally or divided between ligatures. The popliteal artery hugging the posterior upper margin of the tibia is pushed backwards by careful dissection, keeping close to the bone. This is facilitated by flexion of the joint to 120 degrees. The tendons of the popliteus and semimembranous muscles, the biceps, the tibial ligaments and the strap muscles are severed. The tibia is then sectioned subperiosteally 2 inches (5 cm.) below the tumor, and the distal end of the segment is raised. All soft tissue attachments are cut (one works generally through the popliteus). The mass is now free to be removed. The fibula is modeled and pushed into the slot on the outer condyle of the femur. An autogenous angulated graft may be inserted at the lower end of the femur at its medial condyle, and the other end is screwed to the tibia. (In the aforementioned case this grafting was postponed until the wound had healed and there was no lurking sepsis.)

Midtibia: Tumors of the midtibia offer a comparatively easy problem. Segmental resection, with replacement by an angulated biflanged autogenous graft, serves the purpose. The case presented is one of pulsating angioendothelioma with clusters of pericytes (pericytoangioendothelioma).

The patient was operated on in 1951 and is now active, with no local recurrence.

Lower End of the Tibia: Tumors at the lower end of the tibia, as in 1 of my cases, bring out the problem of adequate fixation of the graft at the lower end to insure bony fusion. Even the slightest movement at the ankle while it is in plaster will result in movement at the site of section, and this may end in delayed union or even nonunion. In the circumstances, it is advisable to abolish the ankle joint in the 5-degree equinus of the ankle. This not only helps adequate fixation of the distal end of the graft but effects complete immobilization. The graft used in this case was taken from the opposite fibula.

Postoperative Care.—The limbs are immobilized in plaster, the joints above and below being incorporated. A periodic checkup is necessary for union. When the ends show union with the host, the patient is allowed controlled movements and weight bearing. In the majority the graft is gradually taken up, as can be seen by its irregular margin, the central portion being the last to be incorporated with the host.

CONCLUSOES

Refere-se a certos tumores ósseos como os osteoblastomas, angioendoteliomas, adamantinomas e tumores fibrocartilaginosos. Quando mostram malignidade inicial ou são de baixo grau de malignidade podem ser tratados pela resescção massiça seguida de enxêrto ósseo. Recommenda um enxerto obtido da tibia preenchendo a falha óssea.

CONCLUSIONES

Se trata en este trabajo de ciertos tumores de los huesos largos tales como el osteoclastoma, el angioendotelioma, el adamantinoma y los tumores cartilaginosos o fibrosos. Cuando tales tumores muestran malignidad precoz o son de malignidad discreta deben ser tratados por la resección segmentaria masiva y el ingerto óseo autónomo.

Un ingerto autógeno tomado de la tibia es especialmente recomendable para suplir la pérdida de substancia entre los dos extremos óseos sanos, lo que permitirá soportar bien la carga de peso en cuanquier eventualidad.

CONCLUSIONS

Certaines tumeurs des os longs—ostéoclastomes, angio-endothéliomes, adamantinomes, tumeurs cartilagineuses, osseuses et fibreuses, sont décrites. Lorsqu'elles sont précocément malignes ou d'emblée bénignes, le traitement devrait consister en une résection segmentaire avec autogreffe osseuse massive.

Une autogreffe à double bride prélevée sur le tibia est particulièrement recommandée afin de franchir les bords de la brèche pour les os longs supportants de grands poids, en raison de son pouvoir de résistance à des poids excessifs.

SCHLUSSFOLGERUNG

Gewisse Tumoren der langen Knochen wie Osteoklastome, Angioendotheliome, Adamantinome und knorplige oder knöcherne Fibrome sollten, wenn sie frühe bösartige Veränderungen aufweisen oder wenn sie von Natur nur von geringgradiger Malignität sind, mit segmentärer Resektion und massiver Transplantierung autogenen Knochens behandelt werden.

Zur Überbrückung des Defekts in langen Knochen, die einer Gewichtsbelastung ausgesetzt sind, empfiehlt sich besonders ein doppelflanschiges Transplantat aus der Tibia des Patienten, weil dieses eine besondere Widerstandsfähigkeit gegenüber hohen Bruchbelastungen aufweist.

CONCLUSIONI

Alcuni tumori delle ossa lunghe, quali l'osteoclastoma, l'angioendotelioma, l'adamantinoma, devono essere trattati con la resezione segmentaria e il trapianto osseo.

Si dimostra particolarmente utile un trapianto tibiale per colmare le perdite di sostanza delle ossa lunghe sottoposte a carico, in quanto esso è addatto a resistere a sforzi di vario genere.

* * *

The character of British surgery is further influenced by the wide opportunity it offers to men of every stamp. On the continent it is clear that one who would reach the highest ranks must be academically distinguished, orthodox in his tenets, tactful, and patient. In Britain, on the other hand, any man can rise to the top on his merits, though his qualifications are of the humblest, his views eccentric, his origin obscure, and his manners uncouth. One of our leading surgeons, a man from whom I have learned more than I can acknowledge, has won an international reputation in his own branch of surgery and a teaching appointment in an important university with a pass degree in surgery. Some have made a name by fighting the tenets of their own school, and now have no surer friends or warmer supporters than their old teachers. Others again, who miss no opportunity to offend a patient or quarrel with a colleague, have risen to high positions by the excellence of their work alone.

This wide opportunity is again the outcome of two national traits, the unparalleled generosity of the public, and its refusal to accept any experts other than those of its own choosing. No appeal for funds is ever launched in vain. Famine, flood, pestilence, or war in the most distant lands will always move the Britisher to put his hands into his pocket to relieve the victims. When the appeal is for a hospital the response is usually immediate, and the largest sum raised in the shortest time for this purpose was subscribed by the inhabitants of that Scottish city whose grim pride is in its reputation for close-fistedness. The characteristic British hospital, therefore, is not the large Allgemeines Krankenhaus or Universitäts Klinik, but the much smaller voluntary hospital. Every town has its hospital, and nearly every village its cottage hospital. They vary in size from a thousand beds to a dozen, and in scope from general work to limited specialism.

—*Ogilvie*

Otorhinolaryngologic Surgery

Circumferential Wiring as an Aid to the Management of Maxillofacial Fractures

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The circumferential wiring method, like any other employed in surgical practice, presents advantages and disadvantages. Nevertheless, because of its many applicable potentialities in treatment of different types of maxillofacial fractures, with little risk and an easy conservative approach, it offers good results. The few cases reported here represent some material from the author's personal archives and demonstrate some of the various types of fracture for which this method proved an invaluable aid.

CIRCUMFERENTIAL wiring is a method known since the beginning of this century and has been used in general orthopedic surgery as well as for reduction of maxillofacial fractures (Fig. 1).

If one reviews the literature, it is surprising to find how little this method, regardless of the satisfactory results reported,[1] is used in everyday practice. However, this method, because of its simplicity and little risk, has offered great help, especially in certain fracture groups and categories, namely pediatric and geriatric fractures.

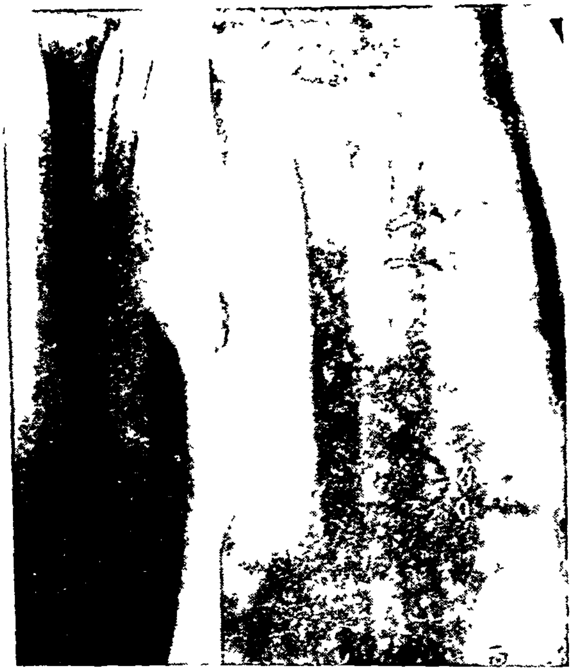

Fig. 1.—Application of circumferential wiring method on an orthopedic case for bone graft fixation in a long bone.

Until ten years ago, these two types of fracture were seldom encountered. For instance, in my own statistics on 1,500 cases of fracture of the jaws treated between 1941 and 1949, only 22 of the fractures

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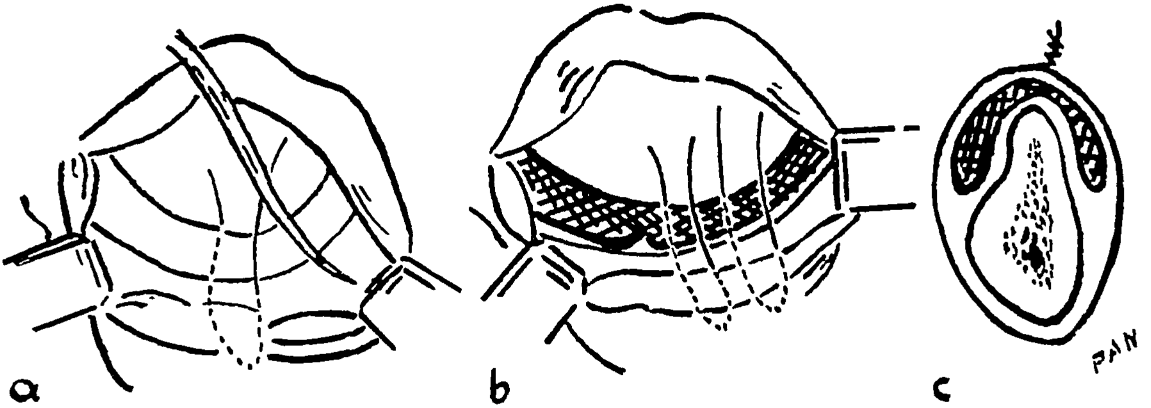

Fig. 2.—Diagram demonstrating the circumferential wiring method in the mandible: *A*, technic of passing wires; *B*, application of splint during reduction; *C*, cross section of mandibular bone with splint and wires in place.

occurred in children and 17 in older persons about 1.4 and 1 per cent respectively.

Today, in an age of electronics and high speeds, these proportions have changed completely, because all age groups are exposed almost equally to multiple and serious injury, including fracture.

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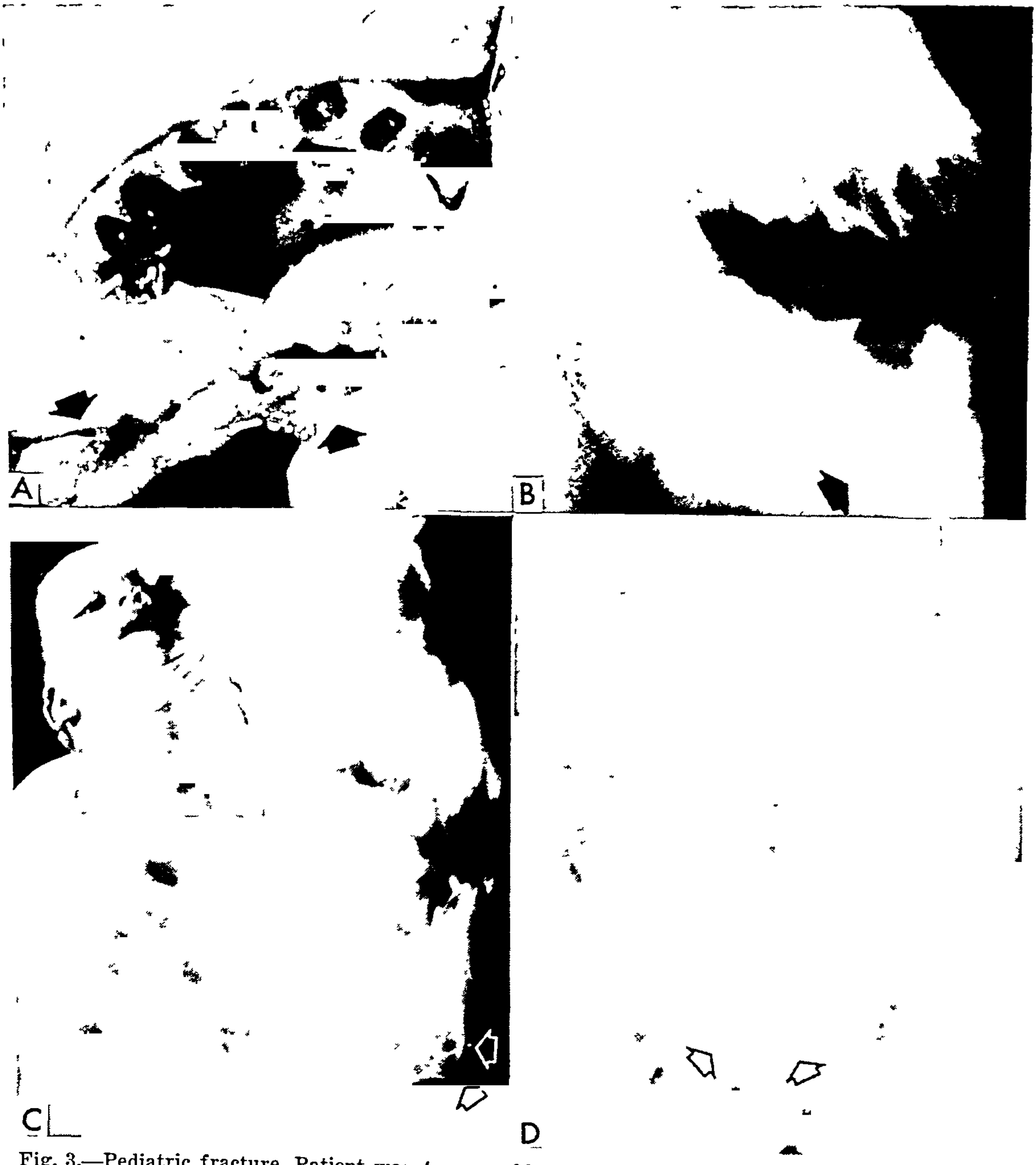
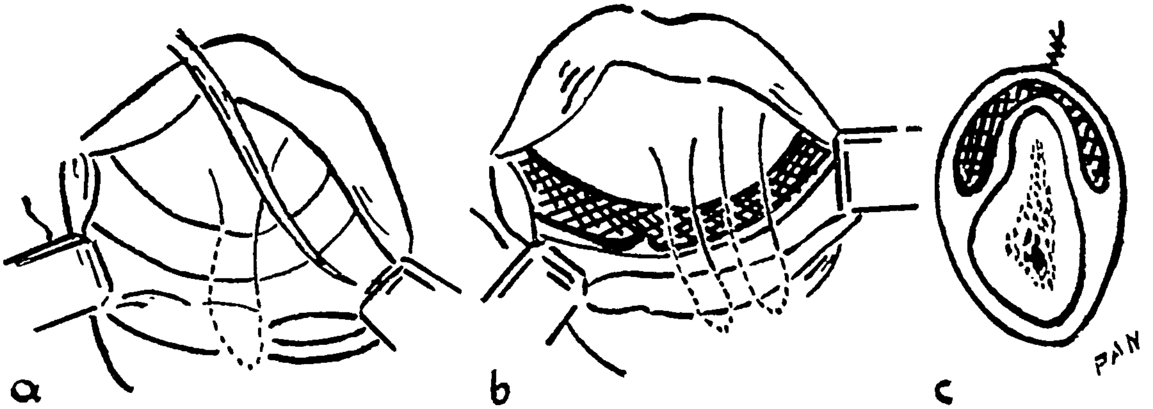


Fig. 3.—Pediatric fracture. Patient was 4 years old, with cerebral palsy and dentinogenesis imperfecta after a fall, showing: *A*, oral condition and lines of fracture. *B*, roentgen view of the mandibular fractures. *C* and *D*, postoperative roentgenograms with the acrylic splint and the circumferential wires in place.

Another frequent type of fracture to which the circumferential wiring method can be applied is that in which the fragments, triangular or rectangular, are separated from the body of the mandible in the upper part, including either the upper or the lower part of the alveolar process. Sometimes saving an independent "frag-



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Today, in an age of electronics and high speeds, these proportions have changed completely, because all age groups are exposed almost equally to multiple and serious injury, including fracture.

Pediatric and geriatric fractures of the jaw present common problems. The main one is the characteristic absence of the natural means of retention for fixation and immobilization, that is, the teeth. Even when some teeth are present, these alone do not supply sufficient means for reduction.

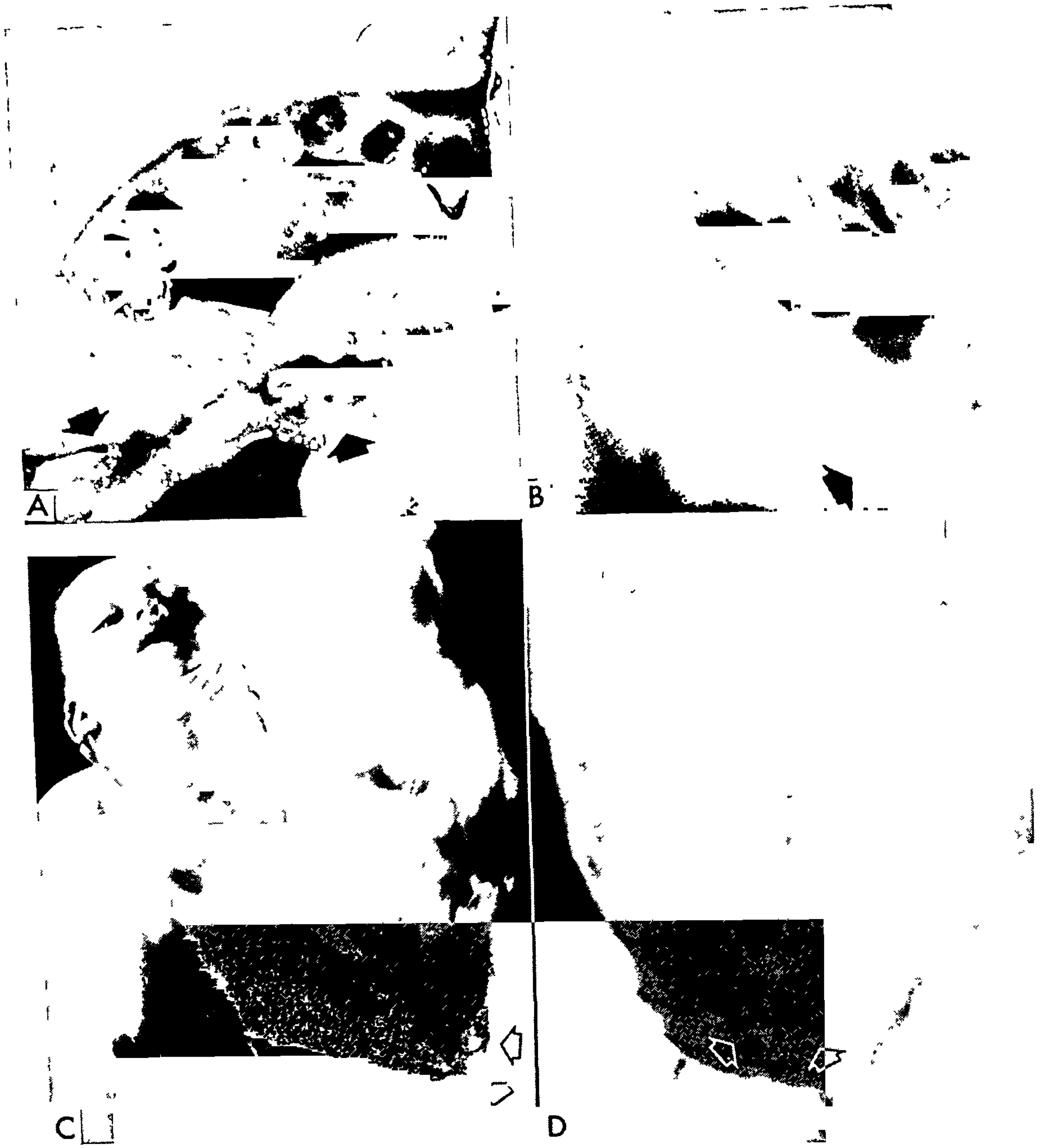
Another important problem is that in both groups one deals with soft, brittle and fragile bone tissue, limited in size and shape as compared with the architectural strong bony structures of the adult who has not reached old age.

The third common point, relatively speaking, is that any kind of neglect or improper management in either case can produce dramatic future problems. In the child, facial deformities, orthodontic irregularities and dysfunction may develop because of growth centers, tooth germa, disturbance or injury of the temporomandibular joint and nerve; in the elderly or aged patient bone diseases may result, such as osteitis or osteomyelitis, and dysfunction may arise owing to pseudarthrosis or malunion of the fragments caused by the atrophy of the senile bone structures and their inability to heal under strenuous and traumatic conditions.

Because of these principal reasons, my attitude toward pediatric and geriatric fractures leads me to use a conservative approach whenever possible.[2] I consider circumferential wiring one of the most helpful conservative methods, because it involves minimal trauma to the tissues and results in good immobilization and fixation for these types of fracture (Fig. 3).

True, this method has its limitations, as does any other; for instance, it cannot be applied to angular or ramus fractures, and its results in a case of horizontal displacement of the fragments are sometimes questionable.

My next choice, if this method is not applicable, is a combination of intermaxillary wiring and intraoral open reduction, followed by extraoral open reduction. For these fractures, I never use blind methods and technics such as the Roger Anderson pin procedure and its variations or the use of Kirschner's needle-wires.[3]



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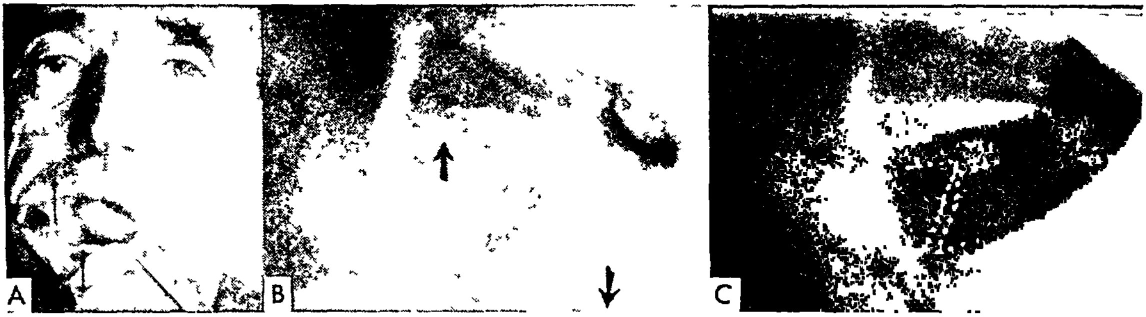

Fig. 4.—Geriatric fracture of the mandible produced after a fall. *A*, oral condition and deformity produced by antagonistic traction of two fragments. *B*, roentgenogram revealing position of fragments and line of fracture; *C*, postoperative roentgenogram showing acrylic splint and circumferential wires in place after reduction.

ment island" can be extremely important, especially to the reconstructive plastic operations in the patients' future (Fig. 11). This method can be used in many ways, but the purpose is always the same: that is, to pass wires around the bone and, by means of a splint, to immobilize the fragments in correct position. Some surgeons have suggested using a trochar and cannula; others describe good results with a long hypodermic needle,[1] and some finally introduced the Reverdin needle. All are acceptable, but the method the surgeon is most familiar with is certainly the best. Personally, I feel more secure working with a Reverdin needle, for these particular reasons:

1. This instrument is so constructed that it allows me to advance it on the bone without twisting the instrument around and producing injuries and hematomas.
2. Because of its long, strong handle, the instrument can be easily guided and advanced to the planned point safely.
3. It offers me security; with other methods, foreign bodies have been introduced by bending the needles during the attempt to overlap the tuberosities of the bone.

The way I apply this method is as follows:[5]

After preparing the face and the upper part of the neck and draping in the usual manner, I make a small, horizontal, stab

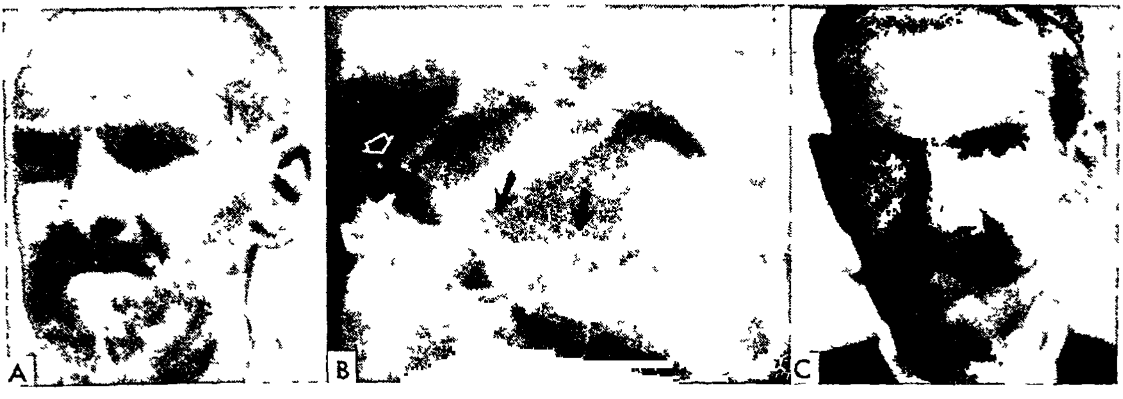

Fig. 5.—Geriatric mandibular fracture in a 63-year-old shepherd produced by kick of mule. *A*, patient soon after the accident, with bilateral submaxillary hematomas. B, roentgenogram revealing double fracture in premolar and molar regions. White arrows demonstrate line of fractures; black arrows, circumferential wires applied around acrylic splint reinforced with metallic lingual bar. *C*, treated patient six months later.

skin incision in the submaxillary area behind the fracture line and introduce the Reverdin needle, with the grasping end closed, from the lingual side of the mandible through the oral cavity. The anatomic shape of the needle and its insertion in an oblique direction upward, backward and downward will help to overlap the curvature of the margin of the lower body of the mandible and to keep the instrument on or near the bone without difficulty and without damaging the surrounding soft tissues. Then, advancing the instrument toward the previously made skin incision, I observe and guide the needle until it emerges. The next step is to open the sharp grasping end and pass a double No. 28 or No. 30 gauge stainless steel, securing one end of it with a hemostat and pulling the other through the oral cavity

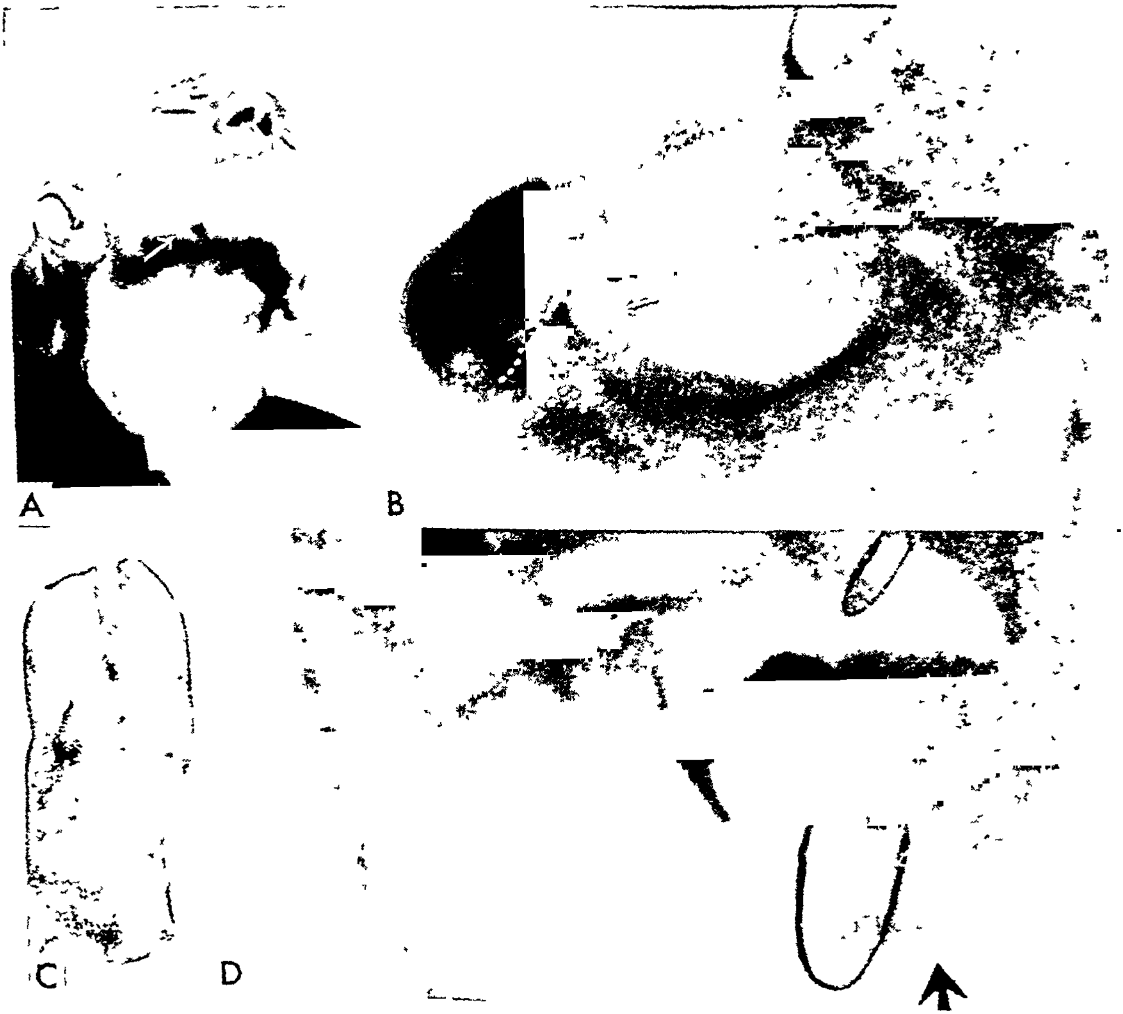

Fig. 6.—Geriatric fracture due to osteomyelitic process of mandible and pathologic fracture because of a chronically infected cuspid tooth root remnant. *A*, 68-year-old woman and the extra-oral submaxillary fistula produced by osteomyelitis. *B*, roentgenogram revealing root remnant and mandibular pathologic fracture. *C*, the long-existent necrotic root remnant in bone which produced pathologic condition. *D*, postoperative roentgenogram showing reduction of fracture after removal of necrotic root remnant. Patient's lower denture was used as a splint for application of circumferential wiring.

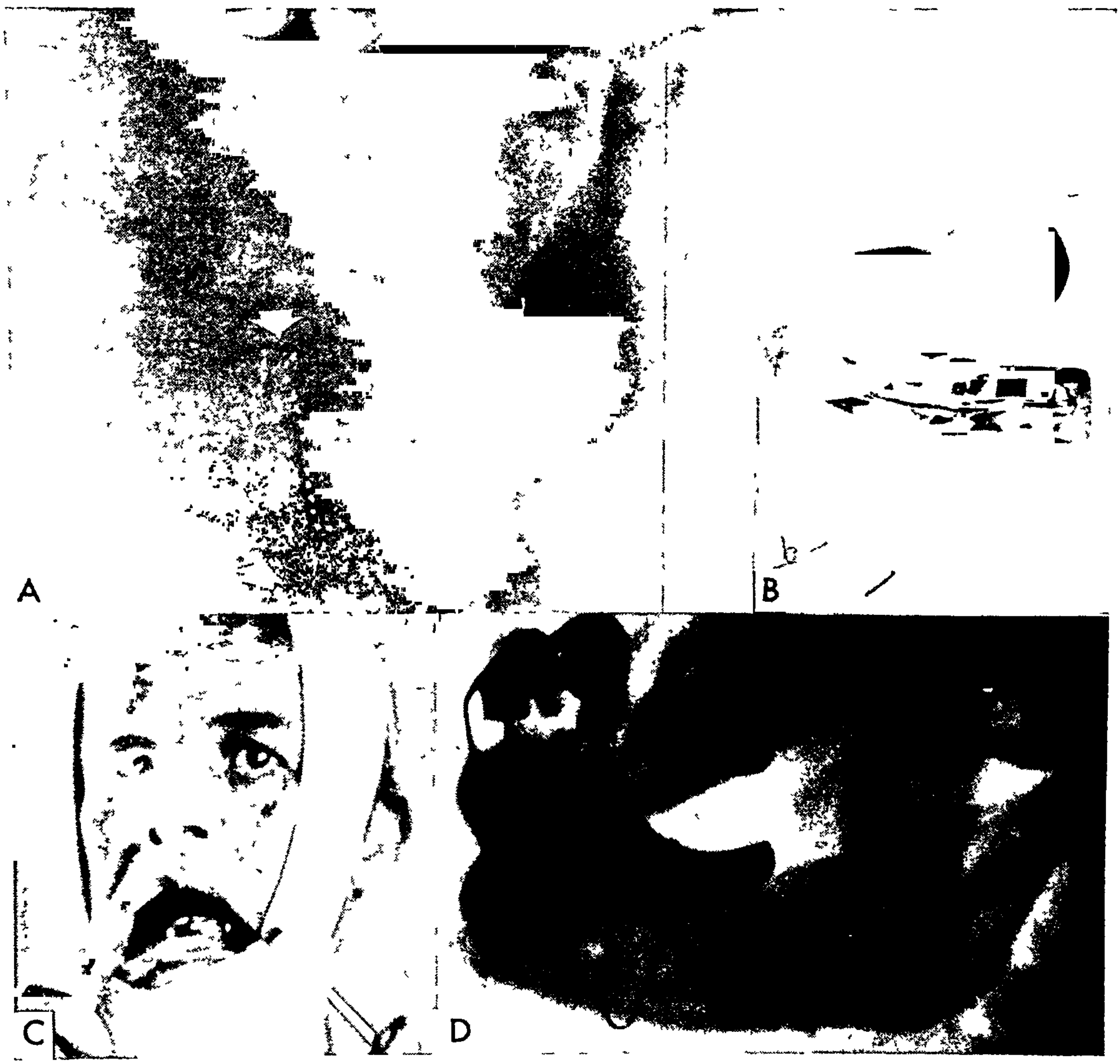

Fig. 7.—Mandibular fracture of a middle-aged woman, produced by a fall downstairs. *A*, roentgenogram revealing middle line fracture (white arrows). *B*, appliance used for reduction, which consists of stainless steel bands connected by means of labial and lingual bar with saddle type plate of black vulcanite which corresponds with opposite edentulous side of mandible. *C*, appliance in place after cementing of bands and fixation of part of saddle type plate on alveolar process by circumferential wiring. Extra-orally a Barton's bandage supports fixation and immobilization. *D*, postoperative roentgenograms revealing appliance and circumferential wire in place after reduction of fracture.

extraorally. While this is done with one hand the other is holding the mandible, placing the thumb on the alveolar process and the rest of the fingers extraorally, holding the bone from the submaxillary region (Fig. 2). Before this last maneuver, I recheck the grasping end to be sure that it is completely closed, and then, while pulling it out, I keep the knob on the handle of the instrument steady so that it does not open while going through the tissues. Both of these two "little" details prevent unnecessary tearing of soft tissues.

Another hemostat is placed in the other end of the wire, and the needle is re-

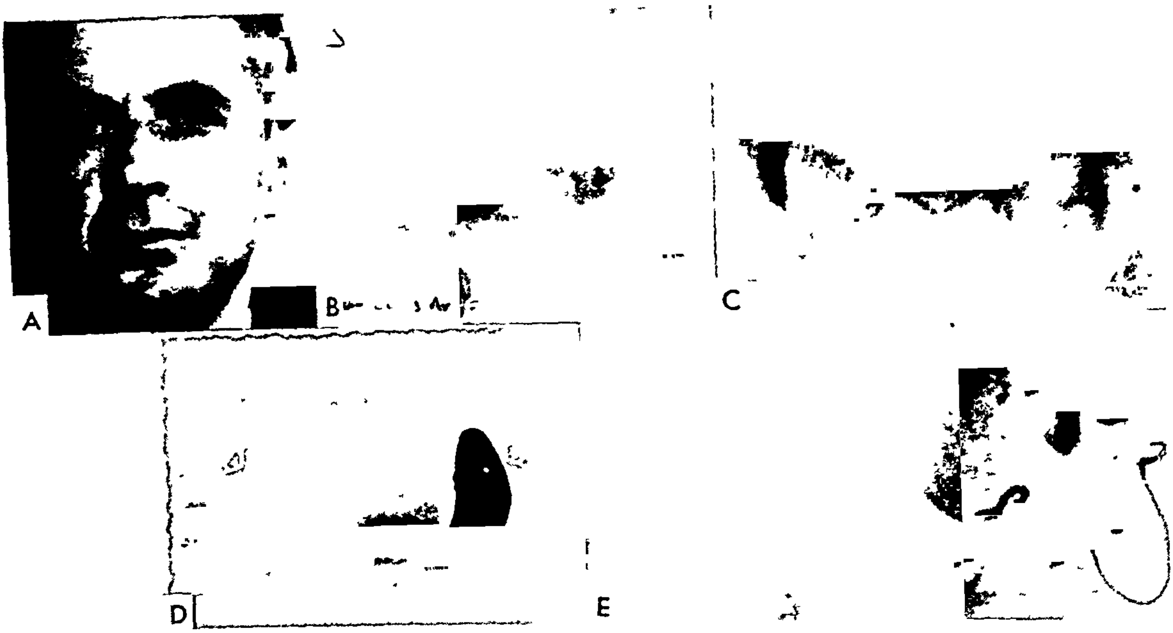

Fig. 8.—Bilateral pathologic fracture in a 35-year-old man after mandibular bone destruction due to Von Recklinghausen's disease. *A*, extra-oral fistula and deformity of lower facial area. *B* and *C*, roentgenograms revealing cystic formation and bone destruction and distortion due to progression of disease. *D*, appliance used by means of circumferential wiring to maintain relation of two main posterior fragments until final surgical treatment. White arrows show prepared openings on appliance which helped to secure circumferential wires and prevent slipping. *E*, postoperative roentgenogram revealing applied method, with splint and wires in place.

inserted in the vestibular region but in some vertical parallel, and again emerges through the same small skin incision. This manipulation is easier than the previous one because the plane of advancement is only slightly curved, in fact, almost straight.

The needle, coming out, grasps the remaining part of the wire and brings it into the oral cavity, and the two ends are secured with a hemostat. Exactly the same procedure is repeated with another wire anterior to the fracture line and, if indicated, in the opposite side of the mandible.

After the wires have been passed, I apply the prepared splint and proceed to the final fixation stage. This splint can be made of acrylic or metallic material, or a combination of the two (Fig. 7).

Sometimes heavy wires arranged as labial and lingual bars (Fig. 9) can be used, or even the patient's denture or removable prosthesis (Fig. 6). I could mention many other variations that are applicable according to the individual case, but I cannot go into detail. I should like to emphasize, however, the importance of a careful preparation and study of the types of appliance that can be used as a splint and of providing a means for readjustment, if necessary, during the procedure. One must bear in mind that this appliance will stay in place for some time and that any cutting marginal surface or end can produce much discomfort and infection, because of trauma, the accumulation of débris and the septic environment.

After this parenthetical comment I continue the description of the technic, which now approaches the final stage:

The splint-appliance is placed on the alveolar process and the fracture reduced, the surgeon holding with the fingers of

A
B
D
C

both hands and pressing the splint above gently but steadily. The assistant, at the same time, is tightening the wires and twisting them evenly clockwise until the fragments are immobilized completely. After securing the immobilization, I release my hold on the bone and splint and cut the wires, placing their sharp ends in preplaced grooves or holes on the splint, in this way obtaining a smooth, nontraumatic surface.

In some cases the aforedescribed method alone suffices, with no further immobilization of the mandible to the maxilla. In most of the cases, however, the application of circumferential wiring requires further immobilization, especially when there is a multiple mandibular fracture or when the maxilla is involved.

In this case, if the patient wears a removable partial prosthesis (denture) and the existent teeth are in the shape and condition to be used as means of retention, this can be of great help (Fig. 10). Modification of this prosthesis by removal of some of the false teeth, to create feeding spaces, is necessary before the intermaxillary fixation. Finally, the mandibular wires, which in this case have been kept long, are tightened with wires applied in the upper teeth. An extraoral help, such as mild pressure bandages, Barton's bandage or some variation offering more stability and relaxation, is advisable.

If the patient is edentulous, one can make an upper basic plate with arrangements to maintain proper occlusional relations. I secure this on the maxilla by alveolar wiring. To achieve this, I introduce two wires in the anterior incisor region and two more posteriorly, each in the premolar region. Again these wires are to be used, with the mandibular ones, to secure the intermaxillary fixation. Again the need of extraoral help should be taken under consideration.

A modification of the patient's upper denture can be adjusted to the requirements in the last-mentioned case.

Often there is confusion of circumferential wiring with the transcircumferential wiring method, which is a variation of the first.[4] Though this method offers excellent results with oblique angular mandibular fractures, I shall not describe it here because it is a combination of the wiring method with open reduction through the oral cavity.

The complications of circumferential wiring are few and avoidable: 1. Displacement of the saddle-like splint if the wires have slipped. This can be prevented if one prepares holes or grooves on the splint where the wires can be inserted, adding to the stability (Fig. 8).

2. Falling of one of our circumferential wires in the line of fracture (Fig. 9). This is enough reason to produce malunion.

3. One wire is tighter than the other and brings higher the fragment with which it corresponds. (This is a less serious complication.) In this case there may be partial union resulting in irregularity of the alveolar process and a questionable prognosis. In the two last-mentioned hazardous cases, the immediate postoperative roentgenograms will help one to diagnose the error early and to correct it.

4. Hematomas and abscesses. These may appear postoperatively but can be prevented if the needle is introduced on or

Fig. 9 *(opposite)*.—Severe mandibular fracture in 21-year-old woman. *A*, patient after plastic repair of extensive submandibular irregular wound. *B*, part of bony mandibular body with two premolars in place as it became completely separated and necrotic and produced bone loss. *C*, preoperative roentgenogram revealing extent of bone tissue damage. *D*, postoperative roentgenogram demonstrating metallic-acrylic appliance and circumferential wiring combined with intermaxillary method applied to maintain proper relation until plastic repair and bone graft transplantation could be performed.

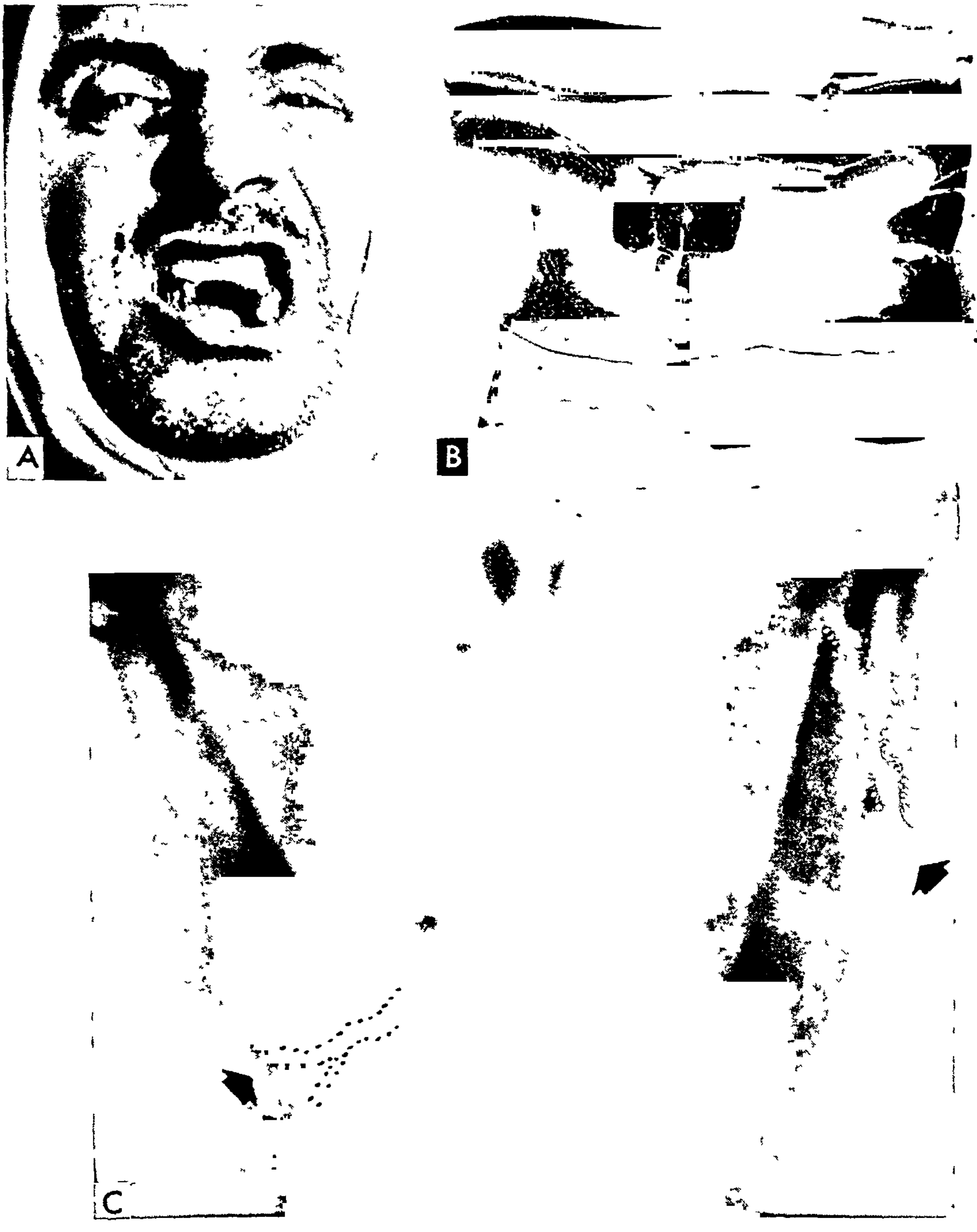

Fig. 10.—Geriatric fracture of the maxilla-mandible of a 65-year-old man, caused by traffic accident. *A*, postoperative photograph of patient, showing applied prosthesis and splints during reduction by combined circumferential wiring, intermaxillary fixation method and extra-oral help by means of Barton's bandage. *B*, acrylic appliance on plaster casts, showing open spaces for feeding purposes, maintenance of proper height and occlusal relation and prepared small holes for passing and securing wires for fixation. *C*, preoperative roentgenogram demonstrating maxillary and double mandibular fracture.

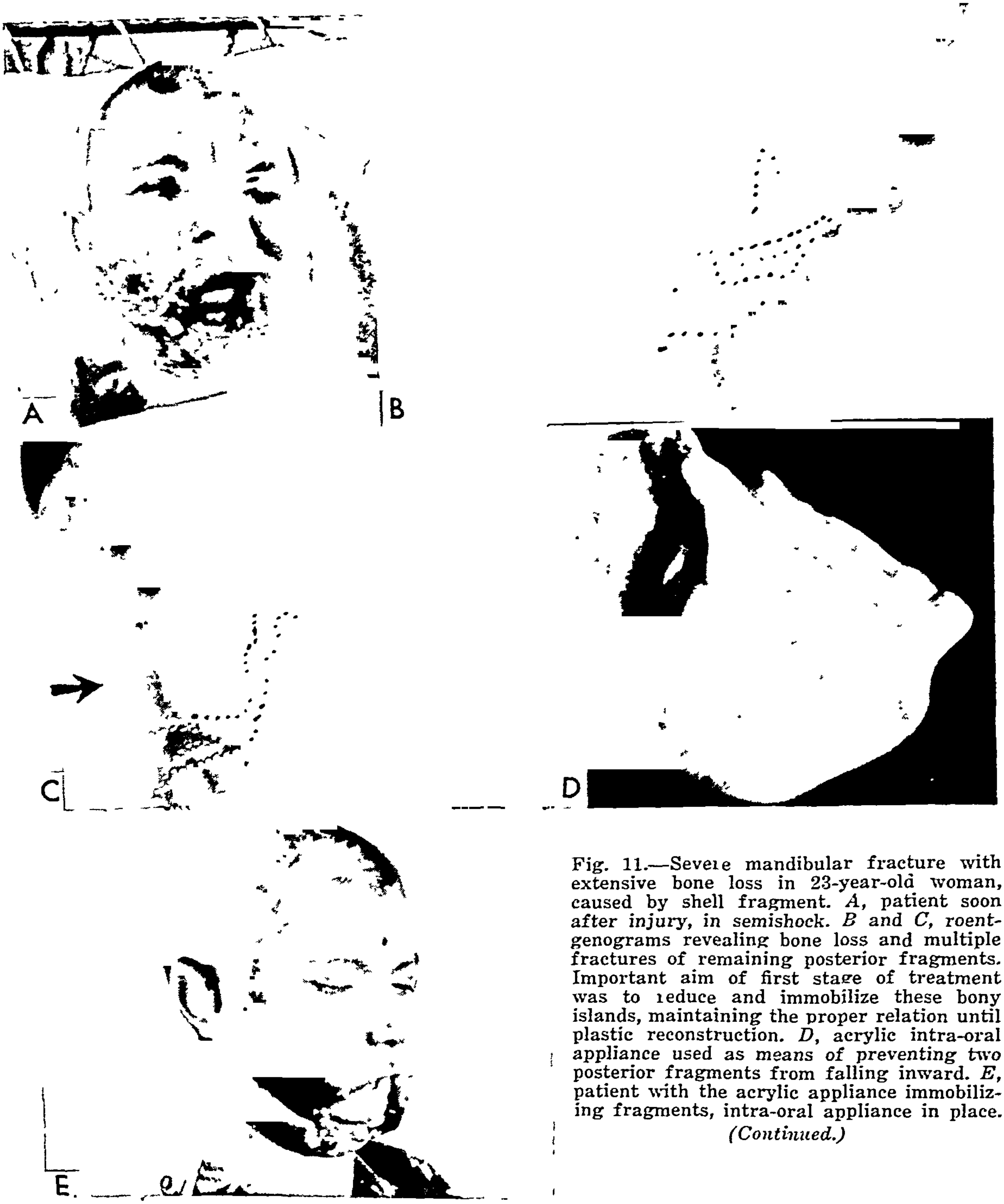

Fig. 11.—Severe mandibular fracture with extensive bone loss in 23-year-old woman, caused by shell fragment. *A*, patient soon after injury, in semishock. *B* and *C*, roentgenograms revealing bone loss and multiple fractures of remaining posterior fragments. Important aim of first stage of treatment was to reduce and immobilize these bony islands, maintaining the proper relation until plastic reconstruction. *D*, acrylic intra-oral appliance used as means of preventing two posterior fragments from falling inward. *E*, patient with the acrylic appliance immobilizing fragments, intra-oral appliance in place.

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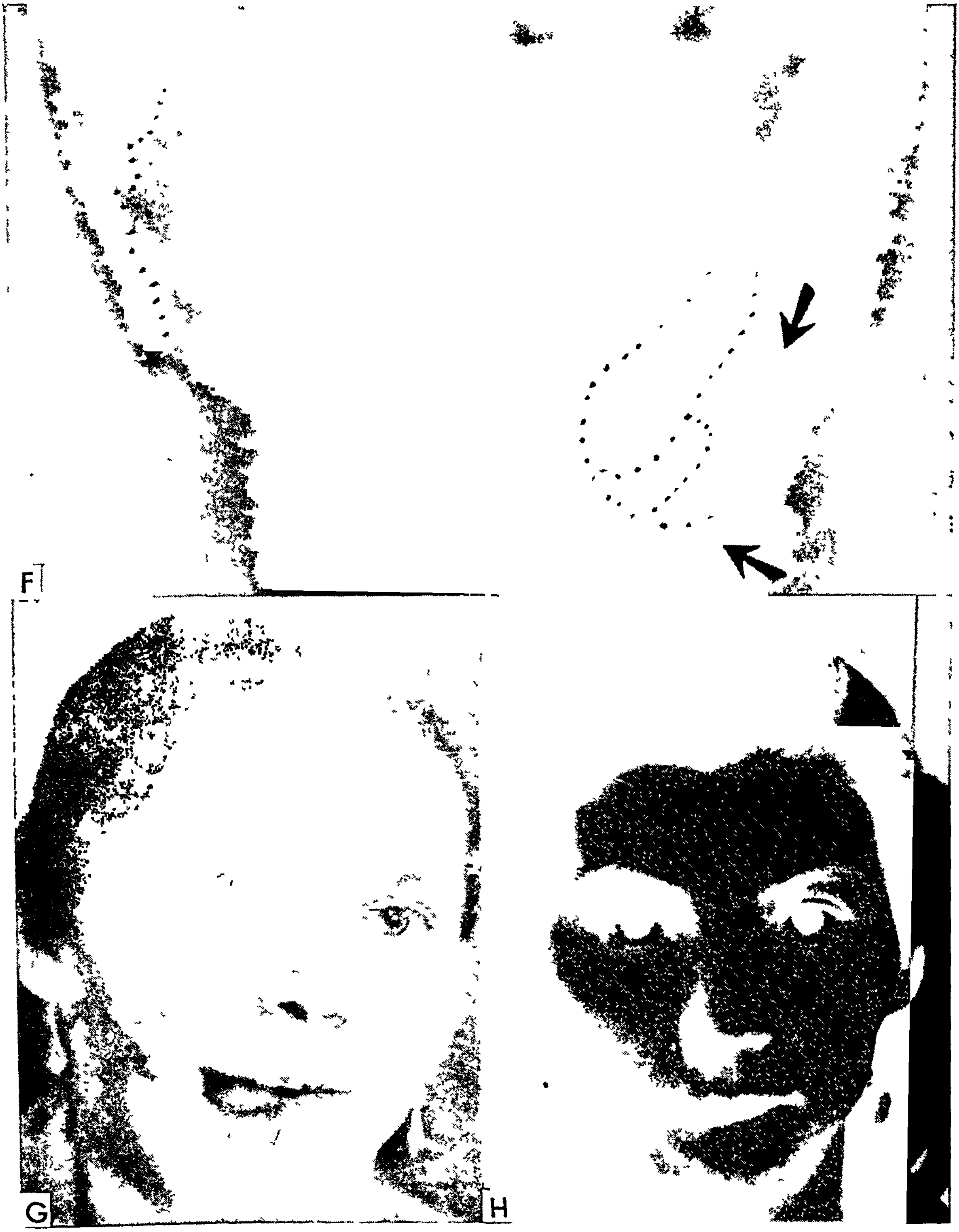

Fig. 11 (*continued*).—*F*, roentgenogram demonstrating great value of circumferential wiring (white arrows) to maintain and utilize smaller fragments of left molar and ramus region. *G* and *H*, last stage of preoperative and postoperative reconstructive repair of plastic bone and soft tissues.

close to the bone, without trauma to the soft tissue, and if, at the time the needle comes out, before it is pulled or reinserted, it can be coated with an antiseptic (I prefer an iodine solution).

5. Breaking of the wire during the tightening process. To prevent this, I suggest the application of double wires, 28 to 30 ml. gauge, of stainless steel, which are more manageable and fit more accurately than others.

ZUSAMMENFASSUNG

Die Methode der peripheren Vereinigung von Knochenenden mit Drahtnähten bietet wie alle anderen in der Chirurgie verwendeten Verfahren Vorzüge und Nachteile. Nichtsdestoweniger führt sie auf Grund ihrer vielen anwendbaren Möglichkeiten in der Behandlung verschiedener Formen von Oberkieferbrüchen ohne grosses Risiko und unter Gewährleistung eines leichten konservativen Zugangsweges zu guten Erfolgen. Die wenigen Fälle, über die hier berichtet wird, stammen aus dem persönlichen Krankenmaterial des Verfassers und illustrieren einige der verschiedenen Bruchformen, bei denen sich das Verfahren von unabschätzbarem Wert erwiesen hat.

SUMARIO

O metodo de amarria circular metalico como qualquer outro usado em pacientes cirurgicos apresenta vantagens e desvantagens.

Apesar de tudo, no tratamento dos diferentes tipos de fraturas maxilofaciais, com pequeno risco e facil acesso, oferece bons resultados. Os poucos casos apresentados aqui representam material dos arquivos do A. e demon stra alguns dos varios tipos de fratura para os quais este metodo provou ser um valioso auxiliar.

RÉSUMÉ

Comme toute autre métode utilisée en chirurgie, la méthode du cerclage métallique présente des avantages et des inconvénients. Elle permet cependant de bons résultats en raison de l'étendue de son champ d'application dans le traitement des divers types de fractures maxillofaciales, avec des risques minimes et une voie d'approche conservatrice aisée. Les cas rapportés proviennent du matériel des archives de l'auteur et démontrent quelquesunves des nombreuses variétés de fractures pour lesquelles cette méthode s'est révélée être d'un secours inappréciable.

RIASSUNTO

Nella cura delle fratture maxillofacciali il metodo del cerchiaggio con filo metallico presenta vantaggi e svantaggi come ogni altro metodo; tuttavia deve considerarsi buono per la sua vasta gamma di impiego in ogni tipo di frattura, con pochi rischi e facilità di esecuzione. L'autore presenta alcuni casi a dimostrazione dei diversi tipi di frattura in cui egli ha usato con vantaggio quesso metodo di cura.

RESUMEN

El método del cerclaje con alambre, como otros empleados en la práctica quirúrgica presenta sus ventajas e inconvenientes. Sin embargo por múltiples posibilidades de aplicación en el tratamiento de los diferentes tipos de fracturas maxilo-faciales con poco riesgo y fácil aplicación produce benos resultados. El corto número de casos del archivo personal del autor prueba cómo en varios tipos de fracturas constituye el método con una ayuda invaluable.

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The Treatment of Inflammation in Otolaryngology; the Use of Steroids and Heparin

DAVID A. DOLOWITZ, M.D.
SALT LAKE CITY, UTAH

CHRONIC weeping eczemas of the external ear and ear canal have long represented a difficult problem in treatment. This is a report of an attempt to approach the solution of the problem through the use of steroids and heparin in controlling the inflammation.

The author describes his experimental and clinical results with the use of heparin to form a biologic repository with neomycin, polymixin or streptomycin in the treatment of weeping eczema of the external ear. Fourteen clinical cases were included in the study, and the condition cleared in all, recurring after the discontinuance of treatment in only 2. The author's conclusion is that heparin has definite value in such cases, since its combination with suitable antibiotics makes it possible to apply the more toxic of the latter in higher and more effective doses than would otherwise be possible.

It has long been known that inflammation may be pictured as a chain reaction of cellular damage presumably caused by histamine. The control of the histamine has been shown to be effected through three main mechanisms. The first (Dougherty[1]) is based on the assumption that the steroids toughen the cell membrane, so as to make it less permeable to the histamine; the second (Bram Rose[2]), indicates that excretion plays a part in clearing the body of this compound. Finally, it has been suggested that the alkaline histamine is neutralized by the acid polysaccharide heparin and forms granules,[3] which are ingested by the connective tissue cells. Such cells resemble mast cells.

Second, while antibiotics control infection, they are frequently so toxic that their dosage is restricted to the bacteriostatic rather than the bactericidal level.

To overcome this, a biologic repository is being sought for the more toxic antibiotics. This must serve in several ways. It must allow a sufficiently high level of the antibiotic in the blood for a long enough period to control the infection, but not to allow the peaks in which the toxicity is excessive, and finally, it must not decrease the activity of the antibiotic.

Heparin, as has been noted, is an acid polysaccharide found in the body, where it forms an acid base complex with many alkaline substances.[4] An attempt was made to see whether an antibiotic heparinate of some alkaline antibiotics might not serve as such a repository.[4] This experiment has been tried with neomycin, polymixin and streptomycin, among their drugs.[4] It has been shown that heparinized

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From the Connective Tissue Study Group, Department of Anatomy, University of Utah Medical School, Salt Lake City.
Submitted for publication May 5, 1958.

animals will tolerate lethal doses of one of these antibiotics.[4b] If the number of surviving animals is plotted against the dose of heparin, a linear protection is noted.[4b] This is a reversible reaction. Hence, after forming the antibiotic heparinate, the compound dissociates slowly, allowing a high enough antibiotic level to exist in the blood for long periods.[4b]

With the employment of neomycin, mice were given injections of hemolytic Staphylococcus aureus. The highest tolerated doses were insufficient to protect the animal. Administered as a mixture with heparin, however, twice the dose previously administered was safe and the animals survived.[5]

As this showed that two of the aforementioned postulates were possible, attention was shifted to the third. Here, *in vitro* studies were started with hemolytic Staph. aureus. These were inoculated on blood agar plates. The blood agar was prepared in three different ways. In one, hemolytic Staph. aureus was inoculated, and discs of neomycin, polymixin and streptomycin were placed on the plate. The area of clearing was measured. On the second blood agar plate, similar discs were first saturated in heparin and then placed on the agar plate. Here, there was a moderately increased area of clearing. Finally, discs were placed on a blood agar plate to which heparin had been added. Here, maximum clearing was observed (Fig. 1).

The postulate that heparin is an antibiotic is not made. It is my opinion that the heparin permits diffusion of the antibiotic across blood agar more easily, since the antibiotic is already in neutral form and does not combine with the acidic material in the blood agar plate as soon as it comes into contact with it. Dissemination, therefore, is increased, and the area of clearing is enlarged.

Since this seemed to answer all of my questions, an attempt was made to try this in patients. Infected weeping eczema was chosen as the lesion for study. Since this was entirely visible, the effects could be seen and measured. The bacteria were easily obtained for culture and study. Weeping eczema of the ear was chosen, since our clinic is an otolaryngologic one.

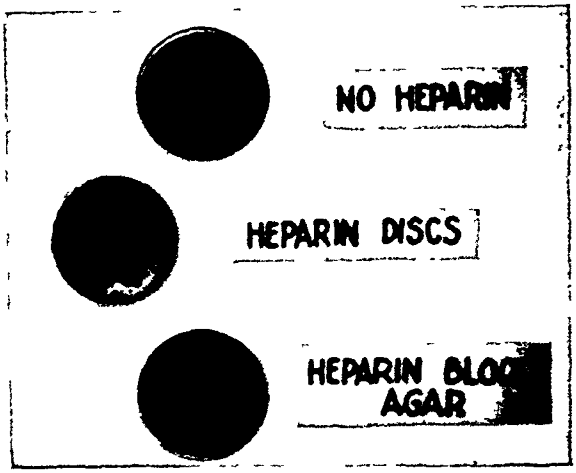

Fig. 1.—Inoculation of hemolytic Staph. aureus on blood agar plates.

Weeping eczema may be divided into two types: (1) an early type, which will respond to almost any medication and will clear quickly and (2) a type that is highly resistant to all treatment. Fourteen cases of the latter type were selected. All of the patients had been treated unsuccessfully by myself or other competent otolaryngologists and dermatologists for at least two years. A culture was taken of the existing organisms before starting treatment. Those most commonly present were hemolytic Staphylococcus aureus, proteus or pyocyaneus. An otomycotic infection was also present in 1 case. After the results of culture and the sensitivities of the organisms had been determined, the appropriate antibiotic and hydrocortisone were used for treatment, as ear drops. Since all other usual treatments, such as hot packs, etc., had been tried before, no attempt was made to use them again. In cases of success with the hydrocortisone and the antibiotic, the patient was not accepted as a

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accompanying photograph of the ear before and after the heparin.

REPORT OF CASE

E. A., a 72-year-old white woman with Raynaud's disease and cyclic neutropenia, was being treated and given steroid therapy constantly for this condition. In the past two years an eczematoid dermatitis of the ear canal had developed, which had not responded to treatment by dermatologists and had progressed so rapidly that the internists were afraid the ear drum was punctured. They had treated her with various steroid combinations and antibiotics, unsuccessfully. Antihistamines also had no effect (Fig. 3).

A culture was made, which showed a hemolytic Staph. albus, sensitive to bacitracin and neomycin. A bacitracin ointment was tried without success. A neomycin-heparin complex was therefore given. The ear cleared in three days. She stopped all treatment, and it remained clear for a month (Fig. 3). The patient was seen once again, three months later, and the ear had remained completely well.

In other cases the response was essentially the same.

CONCLUSION

In 14 cases, heparin was used to form a biologic repository with neomycin, polymixin or streptomycin. A solution of 1 per cent heparin, 2.5 per cent hydrocortisone and 3 per cent of the appropriate antibiotic was used to treat a dermatitis that had not responded to any treatment for at least two years. All 14 patients recovered. In 2 the condition regressed as soon as the treatment was stopped. It is concluded that heparin has definite value in allowing the effective application (higher concentration) of the more toxic antibiotics, with resulting improvement in the infection and inflammation of weeping eczema and healing of the lesion.

SCHLUSSFOLGERUNG

Zur Schaffung eines biologischen Behältnisses von Neomycin, Polymixin oder Streptmycin wurde in 14 Fällen Heparin verwandt. Eine Lösung von 1 Prozent Heparin, 2,5 Prozent Hydrokortison und 3 Prozent des geeigneten Antibiotikums wurde zur Behandlung einer Dermatitis benützt, die mindestens zwei Jahre lang allen Behandlungen getrotzt hatte. In allen 14 Fällen kam es zur Heilung; zwei davon wurden rückfällig, sowie die Behandlung unterbrocken wurde.

Der Verfasser glaubt, dass das Heparin bestimmt zur wirksamen Anwendung der mehr toxischen Antibiotika verhilft und zur Besserung der Infektion und Entzündung des nässenden Ekzems und zur Heilung der Erkrankung führt.

CONCLUSIONS

L'héparine a été utilisée dans 14 cas pour former une combinaison biologique avec la néomycine, la polymycine ou la streptomycine. Une solution d'héparine à 1 %, d'hydrocortisone à 2.5 % et d'un antibiotique approprié à 3 % a été appliquée à des cas de dermatites rebelles à tout traitement depuis plus de deux ans. 12 cas sur 14 ont été ainsi guéris; 2 cas ont présenté une rechute dès la cessation du traitement.

L'auteur estime que l'héparine est d'un précieux secours car elle permet des doses plus concentrées d'antibiotiques plus toxiques d'où résultent 1 amélioration de l'infection et de l'inflammation puis la guérison des eczémas suintants.

RIASSUNTO

L'eparina è stata usata in 14 casi come veicolo biologico per la neomicina la polimixina e la streptomicina. In soluzione all'1% assieme ad idrocortisone al 2,5% e al 3% di antibiotico, è stata impiegata nel trattamento di dematiti che da almeno due anni erano state sottoposte senza successo ad altre terapie. In tutti i 14 casi si ottenne la guargigione, in 2 si ebbe una ricaduta non appena si sospese la cura.

Gli autori sono del parere che l'eparina sia efficace nel consentire l'impiego di più alte dosi di antibiotici tossici, permettendo cosí di conseguire un miglioramento dei subject. All 14 patients in whose cases this method was used had failed to respond to the antibiotic and steroid combination.

A preparation of 1 per cent heparin* was kept in one bottle. The appropriate antibiotic (3 per cent neomycin,** polymixin or streptomycin), depending on the sensitivities of the particular organisms as determined in the *in vitro* experiment, was suspended in 2.5 per cent hydrocortisone solution and kept in a separate bottle. The reason for keeping the solutions in two bottles was that on contact of the neomycin with the heparin a precipitate would form, which would work perfectly well, but which would adhere to glass. Since this was a pilot experiment, it was decided that, rather than bother to siliconize the glass or use plastic bottles, it would be easier to keep the two solutions apart.

All 14 of the patients responded, healing occurring in periods varying from three days to six weeks. In 2 of the cases, as soon as the heparin antibiotic complex was stopped, there was a return of the difficulty. In some of the cases, when a fluid level could be maintained, the solutions were placed in the lower half of the ear canal, so that an area of treatment could be compared with an area not treated. This was particularly applicable to the cavities resulting from mastoid surgical procedures. The exudate would be scraped off periodically (Fig. 2*A*) and the cells studied.

The heparin antibiotic complex treatment seemed to promote the formation of a fibrous plastic exudate which, within a few hours of soaking with the complex, resulted in a disappearance of all of the toxic granules, phagocytic cells and débris observed in the skin scrapings. Since in many cases clearing takes place with the 3 per cent saline pack advocated by Senturia, similar slides have been made of scrapings of the exudate after treatment with saline, but they did not show the same degree of clearing (Fig. 2*B*).

Of the 14 cases, 1 is here reported, with

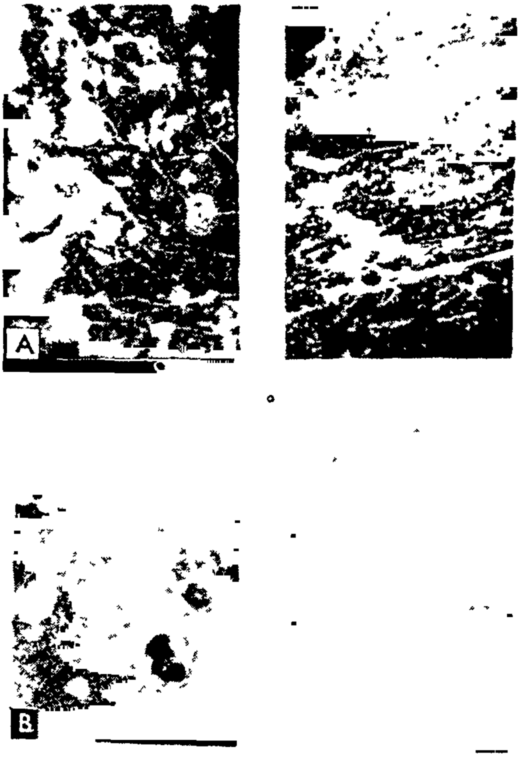

Fig. 2.—*A* and *B*, photomicrographic studies of cells of exudate, from scrapings. In *B*, photomicrographs were taken from scrapings after treatment with saline solution (see text).

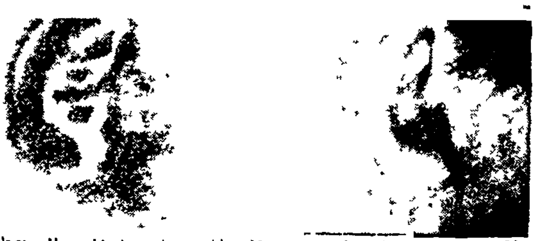

Fig. 3.—Patient with Raynaud's disease, cyclic neutropenia and eczematoid dermatosis of ear canal. Photographs taken before and after treatment of ear condition with neomycin-heparin complex (see text).

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*The heparin used in these experiments was generously supplied by Andrew J. Moriarity, M.D., Medical Division, Department of Clinical Investigation of the Upjohn Company, Kalamazoo, Michigan.

**The neomycin used in these experiments was generously supplied by Upjohn Company, Kalamazoo, Michigan and Schering Corporation, Bloomfield, New Jersey.

The Postoperative Anal Skin Tab: Cause and Prevention

IRVING ROSENBERG, M.D.
PHILADELPHIA, PENNSYLVANIA

The anal skin tab resulting from postoperative edema that does not promptly recede is discussed, with statistical results in 326 cases in which six different types of ointment were employed. No untoward systemic effects or local reactions were observed, and there was no delay in wound healing. The best results were obtained in those cases in which Neo-cortef was used, the composition of which is given in tabular form.

IN an effort to alleviate some of the pain following anorectal operations, clinical observations over several years were recorded. It was determined that postoperative pain can be divided by period into three categories: 1. Immediate postoperative pain, due to the shock of incisions on the nerve endings and intensified by tight binders or dressings of any type. This pain, although intense and requiring opiates, is short-lived and seldom of any consequence past a twelve-hour period. 2. Relatively mild discomfort, increased by either of two factors—the presence of stool pressing on the anorectal line, awaiting passage, or the actual passage of the same. Once the stool has passed, however, mild pain ensues and the patient is rather more than less comfortable. 3. A third period of increased pain beginning on the fourth to the sixth postoperative day. Observations at this time reveal the edema around and between the anal wounds. This edema, causing pressure upon nerve endings in the sensitive anoderm, creates long-lasting pain. Depending upon the degree of edema, the patient is incapacitated for two to four weeks, or longer. The edema can be classified into two types: (a) interstitial, in which the bridges of anoderm between incisions become markedly swollen, and (b) peripheral, with swelling of the wounds themselves. The cause of the two is similar, i.e., trauma of incision with secondary reaction and blockage of lymphatic and venous channels. It is contended that prevention of edema will result in diminished pain, and also in a diminished number of skin tabs.

Skin tabs are the result of edema that does not promptly recede. Infiltration of fibroblasts into such a phlogistic area prevents prompt resolution, leading to poor functional and cosmetic results with prolonged periods of disability. Previous pilot studies have been performed in which the conclusion was drawn that the application of 2.5 per cent hydrocortisone immediately

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fenomeni infiammatori e infettivi fino alla guarigione dell lesioni.

CONCLUSION

En 14 casos ha sido usada la heparina asociada a la neomicina, el polimixin o la estreptomicina. Para tratar dermatitis que no habían respondido a otro tratamiento en los últimos dos años se ha usado una solución de heparina al 1% con 2,5% de hidrocortisona y 3% de antibiótico adecuado. En los 14 casos se logró la curación pero dos de ellos volvieron a aparecer tan pronto como cesó el tratamiento. De acuerdo con la opinión del autor la heparina permite la aplicación efectiva de antibióticos más tóxicos lo que traería como consecuencia la mejoría de la inflamación y de la infección la curación del edema.

CONCLUSAO

Usou a heparina em 14 casos juntamente com a neomicina, poliomixin ou estreptomicina. Empregou uma soluçao a 1% de heparina, 2,5% de hidrocortisona e 3% de antibiotico indicado para tratar uma dermatite que nao respondera a qualquer tratamento ha dois anos. A cura se deu em 14 casos; em 2 houve recidiva quando o tratamento foi suspenso. Na opiniao do A. a heparina permite o emprego efetivo dos antibioticos mais toxicos obtendo-se regressao da infecçao e da inflamaçao do eczema e cicatrizaçao da lesao.

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> Lister's great discovery came at the psychological moment, for the stage setting had been prepared by Pasteur. Semmelweiss's labours were not appreciated because the science of bacteriology was unborn and the rationale of his methods was not understood. Pasteur's demonstration of the role of bacteria in disease cleared away the mists of uncertainty surrounding the subject of antisepsis.
>
> —*Major*

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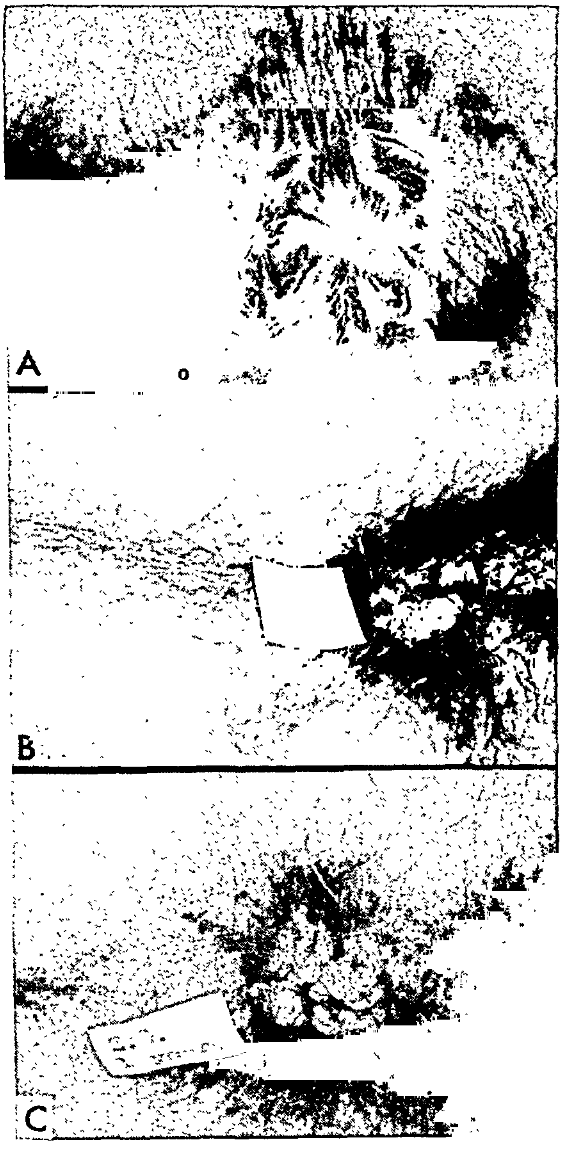

Fig. 1.—*A*, *B* and *C*, three examples of skin tabs secondary to unresolved edema.

after the operation and for at least four to five days thereafter, were of great aid in the prevention of edema and/or fibrous anal skin tabs. The criticism has been made of previous studies that the number of patients involved was insufficient and that the results, therefore, were not valid. This study was undertaken in an effort to prove or disprove the premise.

Materials and Methods.—A total series of 326 cases was studied. In each case, photographs in color were taken with a special close-up camera in the immediate postoperative period at intervals of several days until complete healing had taken place. As far as was possible, a complete record was kept on film. Notes were kept at the same time, so that statistical correlation could be made. Six different ointments were employed. Four were blind-

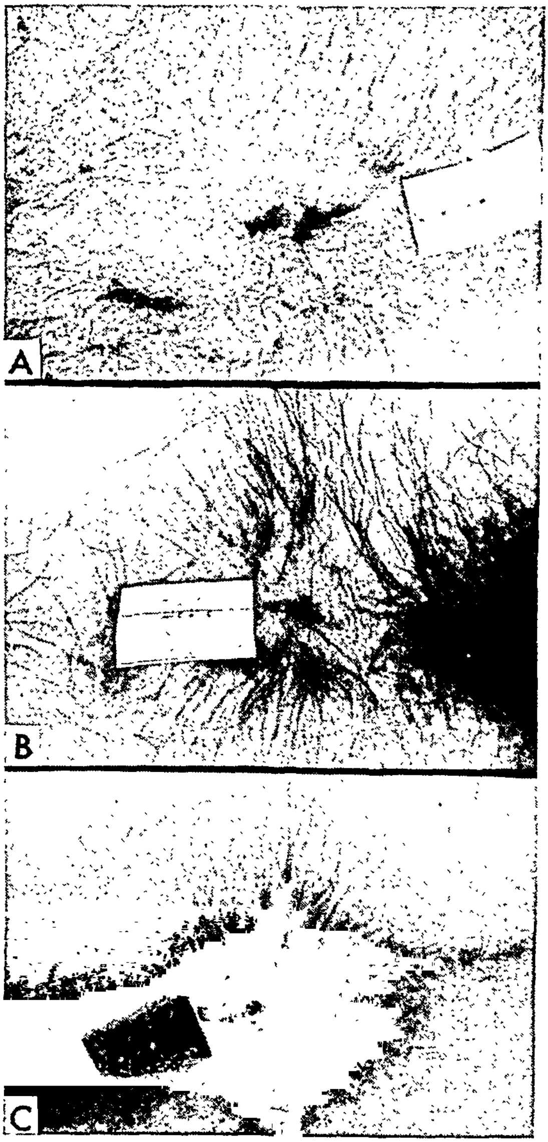

Fig. 2.—*A*, *B* and *C*, acceptable postoperative results.

labeled and two were open-labeled. This was necessary because blind-labeled material was not available for all strengths of ointment. Table 1 lists the contents of each.

Thus it is noted that three products, 62A, 94A and 2.5 per cent Neo-cortef, contained hydrocortisone. Products 62A and 63A were given to alternate patients, as were 94A and 95A. Mycitracin and 2.5 per cent Neo-cortef were also given in alternate cases. Only those cases were included in which anoderm had been sacrificed in at least two areas and in which the ointment was faithfully applied by the patient. Surgical technic did not vary, and all operations were performed by myself. Hemorrhoidectomies were performed by the Milligan-Morgan technic and fissurectomies after Gabriel.

Applications were started on the morning of the first day after operation. In each case, a total of 1 ounce of material was used locally three times a day, after sitz baths. Generally the material ran out in four to five days. The patients learned self-administration by applying ointment on cotton tufts.

Diet was not restricted in any way, and early ambulation was the rule.

Results.—It became obvious, in the course of this study, that criteria other than visual were difficult to evaluate. Pain varied with the individual patient, his emotional state and his response to strange surroundings. Disability seemed to vary according to the type of labor involved and the amount of insurable compensation. Although in this study statistical evidence

TABLE 1.—*Composition of Ointments Employed*

62A	1% Hydrocortisone in simple base with zinc oxide present.
63A	Simple base with zinc oxide.
94A	1% Hydrocortisone in simple base.
95A	Simple base.
Mycitracin Ointment	Each gram contains: Bacitracin — 500 units, Neomycin Sulfate — 5 mg., Polymyxin B Sulphate—5000 units.
2½% Neo-cortef Ointment	Hydrocortisone Acetate — 25 mg., Neomycin Sulphase—5 mg., Methyiparaben — 0.2 mg., Butyl-p-hydroxybenzoate—1.8 mg. per grma.

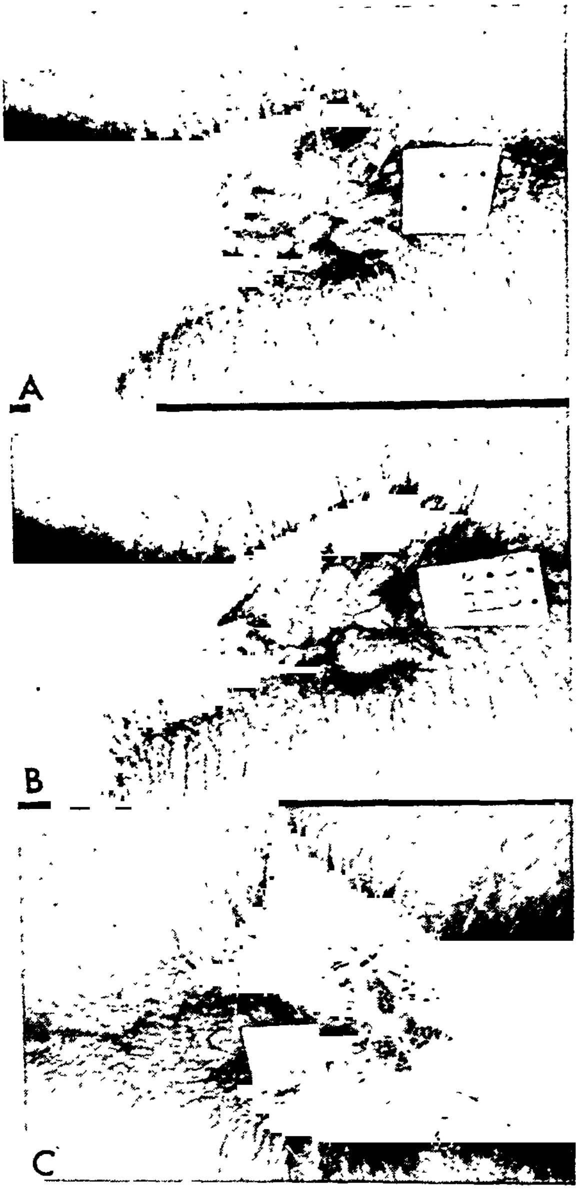

Fig. 3.—*A*, *B* and *C*, photographs in case of J.C., taken at eight days, eleven days and six months respectively, shown as examples of edema treated with ointment 63A (no cortisone). *(Continued.)*

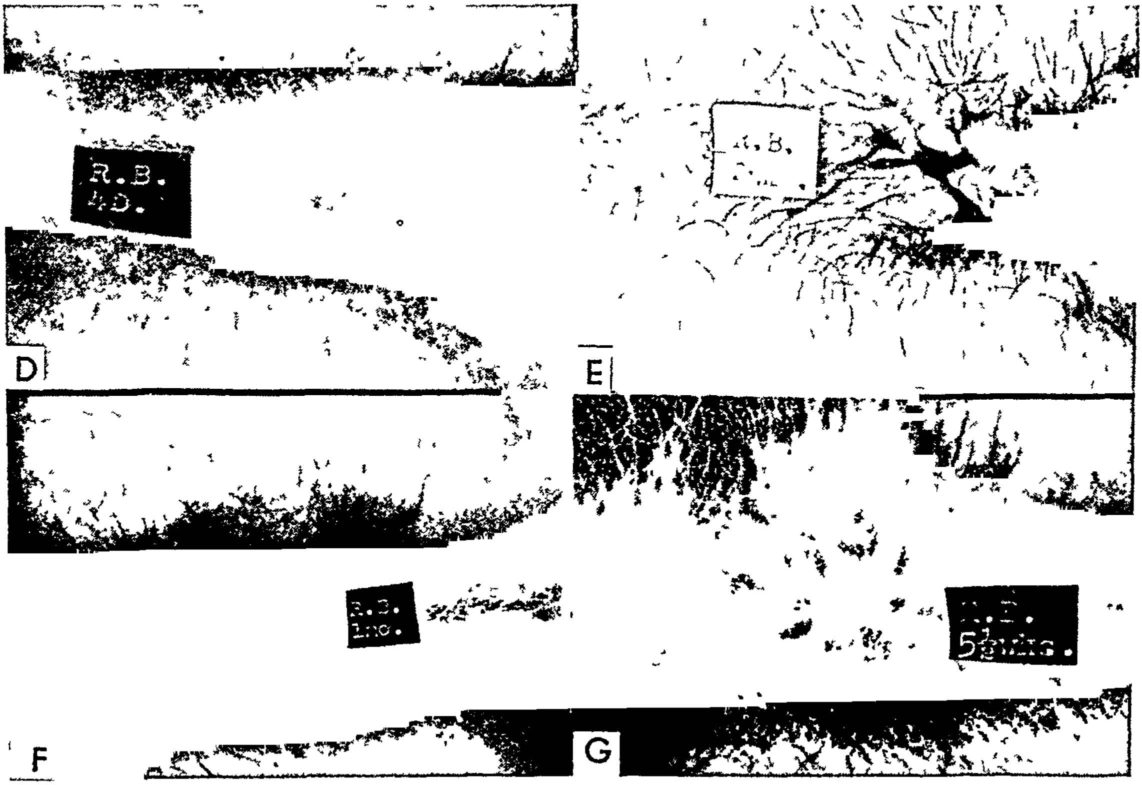

Fig. 3 (*continued*).—*D, E, F* and *G*, photographs in case of R.B., taken at four days, two weeks, one month and five and one-half weeks, respectively. These are further examples of edema treated with ointment 63A and no cortisone. (*Continued.*)

was included as far as possible, a visual basis for conclusions was attempted, with use of the presence or absence of edema and subsequent skin tab formation as criteria. A skin tab, as the term is used here, means a tab that offends surgical sensibility, has not been anticipated and leaves a desire for removal on the part of

TABLE 2.—*Number of Cases and Sex of Patients*

	Number of Cases	*Sex*
62A	44	F—21 M—23
63A	45	F—23 M—22
94A	37	F—23 M—14
95A	37	F—21 M—16
Mycitracin	77	F—41 M—36
2.5% Neo-cortef	86	F—48 M—38

TABLE 3.—*Type of Case and Product Employed*

Product Employed	*Hemorrhoids, %*	*Hemorrhoids and Other Anorectal Pathologic Conditions, %**
62A	70	30
63A	59	41
94A	55	45
95A	73	27
Mycitracin	61	39
2.5% Neo-cortef	73	26

*Includes hemorrhoids with fissure, skin tabs, papillas, fistula, crypts, hidradenitis, condylomata accuminata, abscess and stenosis.

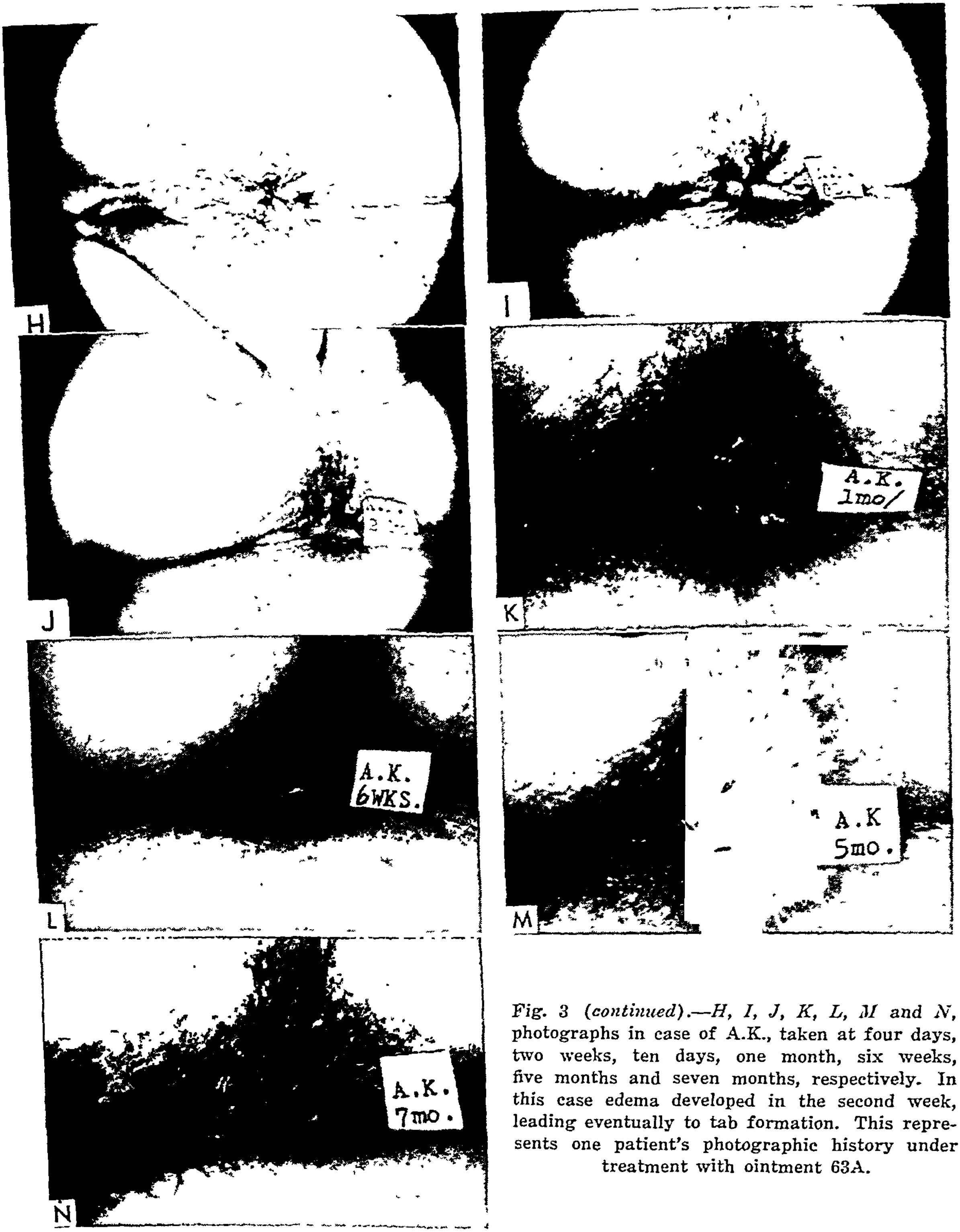

Fig. 3 (*continued*).—*H, I, J, K, L, M* and *N*, photographs in case of A.K., taken at four days, two weeks, ten days, one month, six weeks, five months and seven months, respectively. In this case edema developed in the second week, leading eventually to tab formation. This represents one patient's photographic history under treatment with ointment 63A.

TABLE 4.—*Incidence of Edema with Various Products*

Edema Present	*First Week, %*	*Second Week, %*	*Third Week, %*
62A	21	40	23
63A	42	60	29
94A	32	62	24
95A	32	43	14
Mycitracin	40	40	27
2.5% Neo-cortef	20	29	5

TABLE 5.—*Incidence of Anal Skin Tabs with Various Products*

Tabs Ultimately Present	*Absent, %*	*Present, %*
62A	81	19
63A	69	31
94A	68	32
95A	81	19
Mycitracin	73	27
2.5% Neo-cortef	92	8

the surgeon. Illustrations are presented (Fig. 1) which represent my concept of what constitutes a skin tab. A tabless anus is a comfortable anus in the early recuperative period. Months later, it does not seem to make much difference except from the cosmetic point of view.

No untoward systemic effects or local reactions were noted. Applications either helped or were innocuous. Specifically no delay in wound healing occurred; in fact, the opposite was true in those cases in which there was no edema. An occasional patient complained of burning. Table 2 lists the number of cases involved in each and the breakdown according to sex. In Table 3 is shown the type of case involved. In each instance, hemorrhoids were part of the pathologic picture, for it is in the type of operation applicable thereto that the effect is best demonstrated.

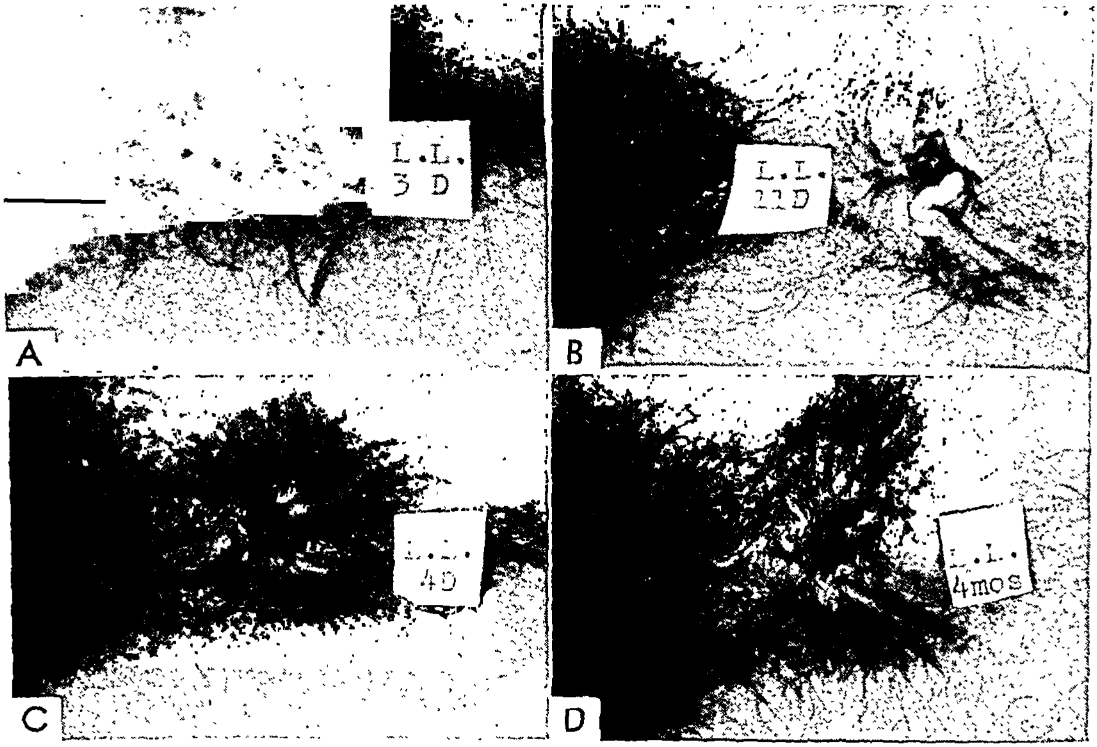

Fig. 4.—*A*, *B*, *C* and *D*, photographs in case of L. L., taken at three days, eleven days, twenty-four days, and four months, respectively. Patient was treated with 2.5 per cent Neo-cortef. This series illustrates peripheral edema appearing in the second week but later disappearing. (*Cont'd*).

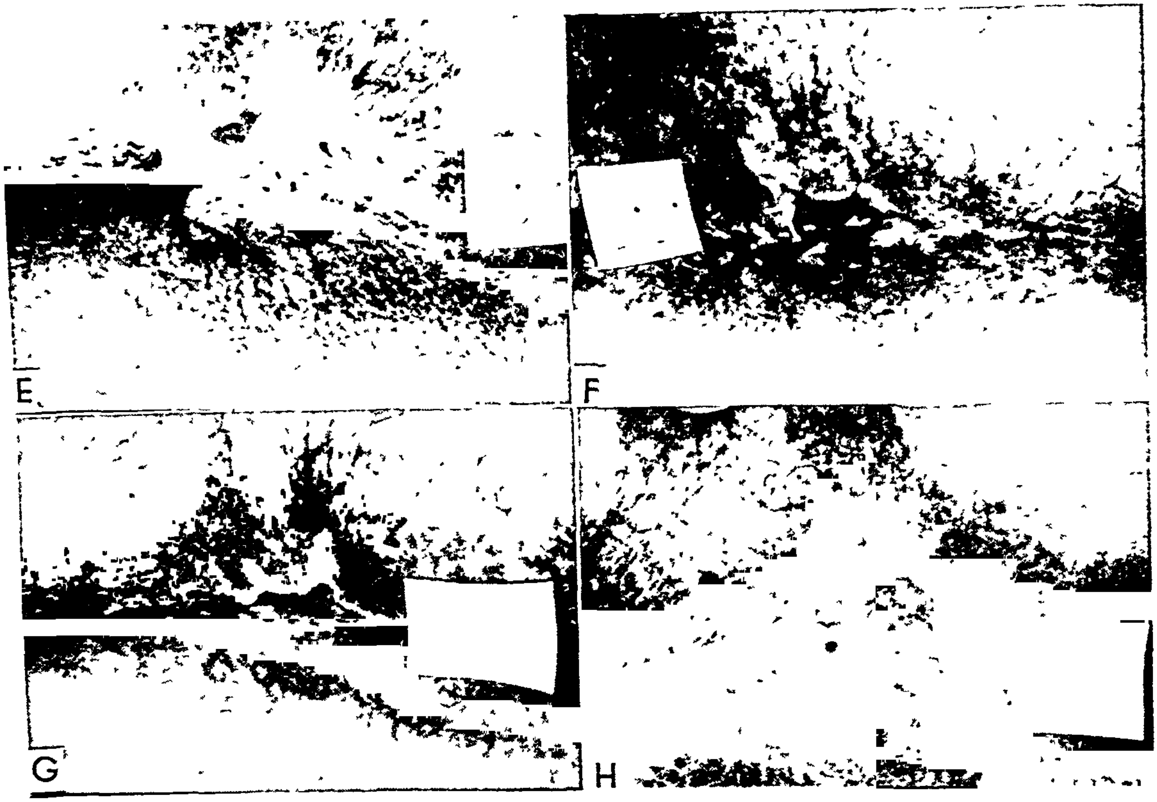

Fig. 4 (*continued*).—*E*, *F*, *G* and *H*, photographs in case of S.S., taken at three days, thirteen days. three weeks and one month, respectively. In this case also Neo-cortef was employed, and edema did not develop at all.

Edema of either type appears at its maximum by the sixth to the tenth day. The best record was made by patients treated with 2.5 per cent Neo-cortef, in which cases the percentage incidence of edema developing by the second week was lower and freedom from swelling by the third week higher. Ointment of this strength was far superior when judged by the ultimate presence or absence of tabs. The apparent discrepancy between third-week edema and subsequent tab formation is explained by the fact that, in an occasional case, a tab developed in the absence of edema, owing to contraction on either side. Conversely, edema does not cause tab formation in all cases.

Statistically, 1 per cent concentrations are ineffective if all are averaged, unless it is assumed that the presence or absence of zinc oxide is important, which I am reluctant to conclude. The 2.5 per cent concentration would appear to be the minimum for good effect.

SCHLUSSFOLGERUNGEN

Zur Verhütung oder zur Verminderung des postoperativen Oedems nach chirurgischen Eingriffen in der Gegend des Afters und des Mastdarms hat sich die örtliche Einspritzung einer 2,5prozentigen Kortisonlösung als nützlich erwiesen. Auf diese Weise werden die Schmerzen nach der Operation herabgesetzt und die Zeit der Heilung abgekürzt. Dem Verfasser sind keine unerwünschten Nebenerscheinungen bei der Anwendung des Kortisons begegnet.

CONCLUSIONI

Il cortisone al 2,5%, applicato localmente dopo gli interventi sull'ano e sul retto, è molto utile nella prevenzione

dell'edema postoperatorio. Ciõ, a sua volta, diminuisce il dolore e abbrevia il periodo di guarigione. Non esistono effetti collaterali dannosi.

CONCLUSIONES

La aplicación local de cortisona al 2.5 por mil es útil para evitar el exema postoperatorio en la cirugía anorrecta. Además reduce el dolor y acorta el tiempo de curación. El autor no ha encontrado ninguna consecuencia inconveniente en el empleo de este tratamiento.

CONCLUSIONS

Dans les cas de chirurgie anorectale une application locale de cortisone à 2.5 % évite ou diminue l'oedème, de même que la douleur, et la guérison intervient plus rapidement. L'auteur n'a enregistré aucun effet nocif pouvant être mis sur le compte de cette thérapeutique.

CONCLUSOES

Considera util o emprego da cortisona a 2,5% localmente na cirurgia anoretal para prevenir ou diminuir o edema. Reduz a dor posoperatoria e diminue o tempo de cicatrizaçao. O A. nao notou alteraçoes com o uso deste material.

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All illness has an intense psychologic effect. In transient illnesses it is considered of little importance. When, however, the disease seems to threaten one's life, or one's social or economic position, or one's hopes and ambitions, it becomes a matter of profound psychologic importance. The effects of great anxiety may vary with different people and different situations, but invariably anxiety about one's body tends to disturb the regulation of the autonomic nervous system and to aggravate the symptoms of the disease. When one's health seems to be seriously threatened, the most important and disabling symptom is a feeling of weakness and utter exhaustion bordering on collapse, quite out of proportion to the constitutional effects of the actual illness.

—*Orgel*

Valeur Diagnostique de la Laparophotographie

(The Diagnostic Value of Laparophotography)

J. CAROLI, M.D., ET A. FOURES, M.D.

PARIS, FRANCE

The authors present their observations over two years of experience with laparophotographic studies and describe the apparatus employed. The photographic data thus acquired are, in their opinion, perfect. This method, according to their experience, is simple to employ, and its value in diagnostic study is unquestionable.

LES laparophotographies qui vont vous être présentées ont été prises avec un appareil utilisant comme source lumineuse un tube électronique flash.

Les dimensions de ce tube sont suffisamment réduites pour qu'il puisse être introduit dans la cavité péritonéale par la même porte d'entrée que le système optique.

C'est la réalisation de ce tube électronique qui nous a permis d'atteindre le but que nous poursuivions depuis plusieurs années: Faire de la laparophotographie une nouvelle méthode d'examen pratique, facile à accepter par le malade, et d'une réelle valeur diagnostique.

Pour cela, il fallait que l'acte opératoire de la simple laparoscopie ne soit pas augmenté par la prise des vues photographiques; il fallait surtout, que les documents obtenus soient parfaits par leur netteté et par l'exactitude de reproduction des couleurs, le chromodiagnostic ayant une très grande importance dans les maladies du foie et des voies biliaires.

Le tube électronique raccourcissant le temps de pose à près d'un 1/1000 de seconde, permet une netteté parfaite des clichés. Ses petites dimensions ont rendu possible la réalisation d'un appareil d'un diamètre de 6.5 mm, c'est à dire pouvant passer au travers d'une canule d'un modèle standard et déjà utilisé pour les laparoscopies, l'acte opératoire reste donc le même qu'il y ait ou qu'il n'y ait pas prise de vues photographiques.

Le problème des couleurs était plus complexe, leur reproduction exacte dépend de l'éclairage de l'organe photographié, c'est à dire de la distance entre la source lumineuse et cet organe, or cette distance est très difficile à apprécier par l'opérateur.

Nous avons tourné la difficulté en réalisant un Générateur de Tension permettant d'envoyer dans le tube électronique des énergies différentes (15-30 ou 50 Joules).

En prenant pour chaque vue trois clichés avec les trois éclairages possibles, il est certain, que l'une au moins de celles ci reproduira les couleurs exactes. Il est facile par la suite de reconnaitre le bon cliché, même pour un médecin n'ayant

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pas assisté à l'examen laparoscopique.

Depuis deux ans que nous utilisons de façon systématique cette nouvelle méthode d'exploration, nous avons pu nous rendre compte des services qu'elle pouvait rendre au médecin.

Non seulement, les documents photographiques se montrent souvent supérieurs à l'examen laparoscopique, en permettant de rectifier les comptes rendus opératoires parfois incomplets et même erronés; mais encore, ils permettent la discussion en commun après l'examen soit avec le chirurgien avant intervention, soit avec un confrère d'une autre spécialité et ils font gagner un temps précieux aux Chefs des Services Hospitaliers, qui ne sont plus obligés d'assister eux mêmes aux examens laparoscopiques qu'ils ont prescrits.

Si la laparoscopie, examen de grande valeur, n'a pas connue jusqu'à ce jour le succès qu'elle méritait, c'est justement parcequ'il lui manquait un document objectif indiscutable complétant le compte rendu opératoire.

Même si ce compte rendu est parfaitement rédigé, un doute dans les cas difficiles peut toujours géner la décision thérapeutique du médecin responsible de la santé du malade.

Cette lacune est aujourd'hui comblée, la laparophotographie est à la laparoscopie ce que la radiographie est à la radioscopie. Grâce à l'instrumentation que nous utilisons, cette méthode d'examen est, en outre, d'une technique simple et pouvant être appliquée de façon ambulatoire; nous en avons fait, dans notre service de l'Hopital Saint Antoine, un examen de consultation, les malades repartent chez eux aussitôt après ocmme ils sont venus. Il est donc actuellement possible de faire systématiquement des laparophotographies à tous les malades justiciables d'un examen laparoscopique.

Le temps qui nous est réservé pour notre communication ne nous permet pas de projeter tous les clichés que nous aurions désiré vous présenter. Les quelques photographies que vous allez voir sont tout de même suffisantes pour prouver la valeur de cette nouvelle méthode d'examen, toutes permettent par leur simple examen d'etablir le diagnostic.

L'une d'elle représente une tumeur kystique dont l'origine rénale n'a été précisée que quelques jours après l'examen, par un urologue assistant à la projection de la photographies, il ne connaissait pas le malade et en outre n'avait pas l'habitude de lire des documents photographiques endoscopiques. C'est là une preuve irréfutable de la valeur diagnostique des documents photographiques.

Vous verrez ensuite, une projection de l'ensemble de l'appareil avec le générateur de tension, l'appareil de prise de vues réalisé spécialement pour l'usage médical auquel il est destiné el l'endographe proprement dit qui, nous le soulignons, n'a qu'un diamètre de 6,5 mm. Cet appareillage, mis au point pour les photographies au cours de laparoscopies, sera d'ici peu adapté aux autres endoscopies. Il a déjà permis de réaliser quelques photographies au cours de cystoscopies et de rectoscopies.

Nous serions heureux, si la présentation de nos documents pouvait attirer votre attention sur l'évolution actuelle de l'endophotographie. Il y a encore peu de temps, son application n'était justifiée que dans le domaine de l'enseignement et de la recherche scientifique, elle a maintenant parcouru une étape nouvelle et est devenue une méthode d'examen d'application facile et dont l'utilité dans la recherche du diagnostic n'est pas discutable.

RÉSUMÉ

Les auteurs font des laparophotographies depuis 2 ans avec un appareil ayant comme source lumineuse un tube flash électronique miniature. Cet appareil ne necessite qu'une porte d'entrée de 6,5 mm, l'acte opératoire de la simple laparoscopie

n'est donc pas augmenté par la prise de vues photographiques.

Les documents photographiques obtenus sont parfaits, aussi bien en ce qui concerce leur netteté que la reproduction des couleurs.

La laparophotographie autrefois réservée à l'enseignement ou à la recherche scientifique est devenue une méthode d'examen d'application facile et dont l'utilité dans la recherche du diagnostic n'est pas discutable.

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Sezione in Italiano

Primi Risultati Positivi nella Realizzazione del Rene Artificiale Intratessutale

(First Positive Results in Creation of an Artificial Kidney)

GIULIO BERNARDINI, L.D., F.I.C.S.
TARANTO, ITALIA

The author presents some first results of experiments carried out on animals and man, the purpose of which was to bring about interstitial dialysis by using balloon-like containers of cellophane filled with the required liquid and introduced subcutaneously and into the anatomic spaces. He has observed that urea and the chlorides are rapidly attracted in the inside of the container to bring about dialysis. In his opinion these experiments could be the starting point for massive interstitial therapy that might eventually substitute advantageously for the creation of an artificial kidney.

LA dialisi extracorporea, detta anche rene artificiale, fu realizzata per la prima volta da Kolff nel 1944. Da quell'epoca sono stati creati innumerevoli modelli dell'apparecchio e la letturatura scientifica medica è apparsa continuamente interessata all'argomento con monografie e articoli anch'essi senza numero.

Ciò sta a dimostrare in primo luogo la efficacia di tale sistema depurativo come succedaneo temporaneo della funzione renale e in secondo luogo che non si è trovato un metodo pratico, per cui non si esagera ad affermare che la sua realizzazione è rimasta una chimera.

I reparti urologici e medici che hanno avuto la iniziativa di sperimentare i reni extracorporei sono in numero ridottissimo. Dico "sperimentare" e non adottare sistematicamente perchè in genere, dopo alcune prove più o meno felici, lo apparecchio viene messo in disparte come pezzo da museo.

I motivi che rendono tanto difficilmente realizzabile in pratica il rene artificiale extracorporeo sono i seguenti:

a) richiede personale altamente specializzato e una disponibilità di sangue da trasfondere che non è facile avere a disposizione.

b) presenta una estrema delicatezza dell'apparecchio per cui ogni minimo inceppamento comporta il definitivo fallimento della sua applicazione.

c) esige la eparinizzazione del paziente. La eparinizzazione può essere causa di complicazioni emorragiche non sempre dominabili, per cui è nettamente controindicata in quei casi, in cui i malati siano già stati sottoposti a decapsulazione o nefrotomia.

d) il suo funzionamento può durare solo

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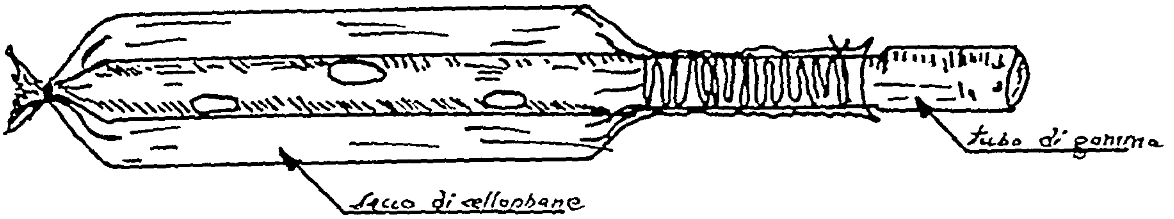

Fig. 1.—Schema.

poche ore e non si può ripetere a breve scadenza.

Tali difficoltà lasciano aperto il problema della ricerca di un sistema depurativo che possa efficacemente far fronte agli inconvenienti derivati all'organismo dalla temporanea sospensione della funzione renale, di pratica realizzazione.

Ho cercato di raggiungere questo abiettivo facendo svolgere il processo di dialisi non nel plasma sanguigno ma nei liquidi interstiziali basandomi sul principio che la concentrazione delle sostanze cristalloidi è la stessa sia nel plasma sanguigno che nei liquidi intratessutali e intracellulari, livellandosi l'uno con l'altro precisamente per i fenomeni di osmosi e di dialisi.

Tale idea che da alcuni anni andavo ruminando nei miei pensieri con alternativa di entusiasmo e di scoraggiamento, ho voluto finalmente portare al vaglio sperimentale.

I risultati mi sono sembrati incoraggianti, anzi hanno superato le più rosee previsioni, per cui ritengo opportuno comunicarli.

Gli esperimenti sono stati così condotti: si prendono dei tubi di cellophan del tipo usato nella dialisi extracorporea (per la precisione ho usato tubi di cellophan Noyiax Viscora della circonferenza di circa 10 cm.). Se ne fanno spezzoni di varia lunghezza (20-25 cm.) a seconda della capacità che si vuole ottenere. Si prende un tubo di gomma dalle caratteristiche di un catetere di Nélaton n. 20 circa e si introduce nell'interno del tubo di cellophan dopo avere praticati dei fori laterali nel segmento introdotto nel tubo stesso. Si annoda quindi fortemente il cellophan alla estremità del tubo di gomma chiudendo a tenuta di aria e di acqua sia l'una che l'altro. A questo punto si chiude l'altra estremità del tubo di cellophan incollandolo con mastix intorno al tubo di gomma per la lunghezza di 6-8 cm. e rinforzando l'azione del preparato adesivo con vari nodi di filo stretti a punto tale che non ostruiscano il lume del tubo di gomma (Fig. 1).

Dopo tale sistemazione si introduce il sacchetto di cellophan vuoto nel sottocute, nella loggia renale o nello spazio retroperitoneale attraverso una breccia fatta chirurgicamente e quindi suturata. Della cute suturata deve fuoriuscire il tubo di gomma nel tratto in cui è incollato al cellophan. E'necessario che il cellophan fuoriesca con il tubo di qualche cm. allo scopo di evitare l'inquinamento del liquido contenuto nel sacchetto di cellophan. Nei primi esperimenti in cui avevo trascurata tale accortezza i germi che inevitabilmente pullulavano nel meato cutaneo si infiltrarono fra gomma e cellophan e a dispetto del mastix e dei nodi di filo arrivarono nel liquido contenuto nel sacchetto di cellophan inquinandolo. *Tale inquinamento comunque non arrestò né modificò la dialisi.*

Il sacchetto di cellophan così introdotto viene riempito di soluzione acquosa preparata in modo che si possano compiere gli scambi osmotici e dialitici desiderati.

Sia ben chiaro che i particolari della preparazione dell'apparecchio da me usato non hanno alcuna importanza. La sostanza è che si prepari comunque un sacchetto di cellophan adatto che possa essere introdotto in mezzo ai tessuti da riempire e svuotare a volontà dall'esterno.

I primi esperimenti furono condotti su due cani di grossa taglia con l'unico scopo di accertare se l'auspicata dialisi si realizzasse. Era chiaro che qualora questa prova fosse fallita gli esperimenti non avrebbero avuta alcuna ragione di essere ulteriormente proseguiti.

Fatta una incisione di 3 cm. su di un fianco dei due cani, con un ferro smusso scollai delicatamente il sottocute per preparare l'alloggio al sacchetto di cellophan, e quindi ve lo introdussi con le accortezze tecniche sopra descritte. Ciò fatto riempii il sacchetto con 150 cc. di acqua bidistillata chiudendo quindi a tenuta il tubo di gomma che usciva fuori dalla cute, con un nodo di filo. A distanza di 3-6-12-24 ore prelevai campioni del liquido contenuto nel sacchetto di cellophan mediante aspirazione eseguita con una siringa innestata ad un ago che veniva infisso nel tubo di gomma.

Naturalmente dato che il mio esperimento aveva il solo scopo di accertare se avveniva o meno la dialisi, limitai l'esame dei campioni prelevati nelle varie ore alla ricerca e al dosaggio dell'urea e del cloruro, paragonando il loro tasso a quello riscontrato nel campione di sangue preso giornalmente agli stessi cani sui quali l'esperimento veniva condotto. Avrei avuto così l'indicazione anche della velocità con cui gli scambi dialitici si sarebbero verificati.

Nei campioni prelevati alla terza ora trovai urea e cloruro nella proprozione di 1/3 rispetto al contenuto ematico; nei campioni prelevati alla sesta ora tale contenuto si elevava a 2/3, mentre nei campioni prelevati alla dodicesima ora raggiungevano i 4/5 e alla ventiquattresima il tasso ematico.

Da allora, ogni giorno alla stessa ora, svuotai completamente il sacchetto di cellophan riempiendolo di acqua bidistillata nuova per ripetere gli esami sui campioni prelevati alla 3, 6, 12 e 24 ora trovando sostanzialmente gli stessi risultati.

Con questi esperimenti risultò inequivocabilmente dimostrato che:

a) la dialisi fra il liquido contenuto nel sacchetto di cellophan e il liquido interstiziale avviene regolarmente;

b) l'equilibrio della concentrazione dei vari cristalloidi avviene in un tempo relativamente breve (12-24 ore);

c) la dialisi avviene per un tempo indeterminato, dato che al decimo giorno della permanenza del sacchetto di cellophan nel sottocute degli animali nelle prove eseguite gli scambi risultarono immutati.

Dopo il felice risultato di questi esperimenti mi sentii autorizzato a fare applicazioni pratiche sull'uomo. In questi tentativi mi confortò la certezza che comunque al malato non poteva venire alcun nocumento.

A un paziente degente in clinica per osteomielite che aveva una azotemia di 0,35% introdussi il sacchetto di cellophan della capacità di 150 cc. nel sottocute del fianco destro. Questa volta non riempii però il sacchetto di acqua bidistillata, ma di un liquido usato per la dialisi extracorporea onde saggiare la possibilità del passaggio di alcuni metaboliti nocivi dai liquidi intratessutali al liquido contenuto nel sacchetto. Scelsi il liquido di Hamburger così composto: NaCl gr. 6,3—KCl gr. 0,3 —$CaCl^2$ gr. 0,3—$NaHCO^3$ gr. 2,65—Glucosio gr. 2 in un litro di acqua bidistillata.

Prelevai quindi campioni della soluzione di Hamburger contenuta nello apparecchio alla terza, sesta, dodicesima e ventiquattresima ora. Ogni 24 ore rinnovavo il liquido. Ciò fu fatto per quattro giorni al a fine dei quali lo apparecchio fu rimosso. In ognuno dei quattro giorni con i prelievi del liquido contenuto nello apparecchio fu preso un campione di sangue da una vena del gomito per la misurazione del tasso azotemico che oscillò fra 0,32 e 0,37%.

Dato che lo scopo prefisso era quello di esaminare se i metaboliti venivano attirati nell'interno del sacchetto di cellophan e in quale velocità e quantità, limitai l'analisi quantitativa al metabolito tipico, cioè all'urea.

La media dei resultati nei quattro giorni fu la seguente:

Dopo tre ore l'urea contenuta nel liquido dell'apparecchio era del 0,10%. Dopo 6 ore era dello 0,21%. Dopo 12 ore giunse al 0,28% e infine, dopo 24 ore, il liquido contenuto nell'apparecchio era del 0,35%.

Lo stesso esperimento eseguito su di un malato affetto da glomerulonefrite cronica con azotemia di 2,05% dette i seguenti risultati:

Dopo tre ore l'urea contenuta nel liquido dell'apparecchio era del 0,70% dopo 6 ore era del 1,38%, dopo 122 ore era del 1,72% mentre dopo 24 ore era del 2,05%.

In 24 ore si raggiunge quindi l'equilibrio fra tasso azotemico e la concentrazione del liquido contenuto nell'apparecchio. La velocità del passaggio è maggiore nelle prime ore.

Non mi soffermo a discutere sul valore della urea nella depurazione del sangue dei malati affetti da insufficienza renale: io prendo l'urea come indice di depurazione nello stesso senso con cui viene presa dagli studiosi che hanno realizzato il rene extracorporeo, cioè come indice dell'allontanamento dal sangue di tutti quei metaboliti che in esso si accumulano a causa della inattività parziale o totale del rene. In ogni modo in ulteriori studi si portà determinare meglio la natura di tutte le sostanze tossiche e non tossiche che possono passare nel liquido contenuto nel sacchetto cellofanico da me sperimentato. E' facile però arguire che tali sostanze saranno le stesse che passano nel rene artificiale extracorporeo, dato che la membrana dializzante è la medesima e dato che gli esperimenti condotti su un metabolito quale è l'urea sono stati positivi.

Quanto alla possibilità di applicare ai malati affetti da grave insufficienza renale a scopo depurativo l'apparecchio in argomento, l'entusiasmo mi porta a formulare le più rosee previsioni: penso infatti che esso possa sostituire efficacemente in gran parte della sua funzione svelenatrice il rene naturale, almeno nelle stessa proporzione in cui tale capacità viene riconosciuta al rene artificiale extracorporeo.

Infatti è facile pensare che i sacchetti di cellophan della capienza di 150 cc. e più possano essere sistemati in gran numero nel sottocute di varie regioni del corpo, nello spazio retroperitoneale, nelle loggie renali fino a totalizzare 1500-2000 cc. a cui affidare il compito di attrarre, attraverso la membrana porosa, i metaboliti rimasti accumulati nell'organismo. Volendo aumentare ancora il volume del liquido purificante si può studiare anche la possibilità di raccoglierlo in vesciche di cellophan da introdurre nella cavità peritoneale, dato che si tratta di malati votati alla morte per i quali ogni tentativo che presenti la prospettiva di migliorare la prognosi trova la sua giustificazione.

Si potrebbe pensare anche, per aumentare la velocità degli scambi dialitici, di ricambiare l'acqua contenuta nei sacchetti di cellophan ogni 12 ore anzichè ogni 24 ore come ho fatto nei miei esperimenti, allo scopo di sfruttare la maggiore velocità iniziale degli scambi dialitici riscontrata precisamente negli stessi esperimenti.

L'obiettivo di accelerare il passaggio dei metaboliti nel liquido depurativo potrebbe anche essere meglio raggiunto aumentando la porosità del cellophan mediante ebollizione prolungata, come in genere si fa nei reni artificiali extracorporei. A questo proposito è bene chiarire che gli esperimenti da me condotti sono stati eseguiti con cellophan bollito solo per 20 minuti.

A me sembra che il metodo esposto presenti dei vantaggi sul rene artificiale extracorporeo che possono essere così riassunti:

a) è di una semplicità tale che lo rende alla portata di tutti, anche del medico generico. Non richiede personale specializzato, non équipe, non sangue da trasfondere;

b) non esige la eparinizzazione dell'ammalato;

c) non è applicabile solo una tantum, né per poche ore, ma per molti giorni e si può ripetere a volontà.

Questo per quanto riguarda il paragone puro e semplice della depurazione ottenuta mediante il sistema del rene artificiale extracorporeo e mediante il sistema da me studiato.

Ma la constatazione emersa dai risultati riferiti che attraverso una membrana porosa portata a contatto dei liquidi intratessutali avviene fra questi liquidi e i liquidi esterni uno scambio di sostanze tali da poter modificare prontamente il tasso ematico dei cristalloidi, mi fa intravedere altre possibilità terapeutiche.

Infatti se invece di una membrana porosa noi usassimo una membrana semipermeabile che non permette il passaggio del soluto ma solo del solvente dando luogo al fenomeno della osmosi, noi avremmo la possibilità di sottrarre allo organismo acqua a nostra volontà mettendo nel sacchetto di una membrana semipermeabile soluzioni ipertoniche adatte e ciò potrebbe risolvere il problema della cura della pletora idrica legata a gravi affezioni del rene e del cuore.

Andando oltre possiamo ricordare che esistono membrane a permeabilità selettiva che si lasciano attraversare solo da certi corpi e in determinati sensi, selettività che in genere è strettamente legata a fenomeni elettrici. Ulteriori indagini potrebbero permettere di trovare membrane di questo genere che siano capaci di sottrarre ai liquidi organici determinate sostanze a scopo terapeutico.

Naturalmente le rosee previsioni sulle applicazioni pratiche del metodo esposto per ora rimangono delle semplici previsioni, anche se appoggiate sugli ottimi argomenti offerti dai risultati ottenuti con i limitati esperimenti da me condotti. Le ulteriori prove ed elaborazioni a cui invito gli studiosi potranno dimensionare la esatta portata delle esperienze esposte in questa nota.

RIASSUNTO

L'Autore espone in una nota preventiva i primi risultati di esperimenti condotti su animali e su malati per realizzare la dialisi intratessutale con palloncini di cellophan-ripieni di liquido determinato, introdotti nel sottocute e in spazi anatomici.

Egli ha osservato che l'urea e i cloruri vengono attratti con una certa rapidità nell'interno dei palloncini per dialisi.

Egli pensa che questi esperimenti possano essere il punto di partenza per lo studio più approfondito di depurazioni terapeutiche massive intratessutali che potrebbero sostituire vantaggiosamente il rene artificiale extracorporeo, i cui inconvenienti sono a tutti noti.

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Correction: In the April 1959 issue of the Journal the initial of Dr. David Kopel, F.I.C.S., of Belize, British Honduras, was erroneously given as I, not D. Our sincere apologies are extended to Dr. Kopel.

Sección en Español

Consideraciones Clinico-Patologicas en la Cirugia de la Vesicula Biliar

(Clinicopathologic Considerations in Surgical Treatment of the Biliary Tract)

GUSTAVO VILLATE, M.D.
CHICAGO, ILLINOIS

Roentgen study, in the author's opinion, is incalculably valuable in the research and treatment of biliary disease. Cholecystographic study is discussed, as are biliary calculosis and the diagnosis of acute and chronic cholecystitus. The problem of differentiation between medical and surgical icterus is outlined, with the author's comments. The article ends with a list of indications for exploration of the common duct and a brief comment on possible post-operative complications.

ESTE trabajo es el resultado de tres años de práctica—quirúrgica en uno de los más prominentes hospitales de Chicago, el cual es de tipo privado pero con considerable número de casos de caridad.

Desde octubre de 1953 hasta octubre de 1956 he revisado—438 casos admitidos y tratados como pacientes con patología—primordialmente de las Vías Biliares; la proporción es de 4 a 1 en relación de mujer y hombre; la edad varía de 21 a 92 años de edad; todos son de la raza blanca.

El sintoma predominante fué dolor en el cuadrante superior derecho después de ingestión de alimentos ricos en grasas o dolor que comienza en las primeras horas de la mañana después de una cena tardía y grasosa. El cuadro denominado de indigestión fué presente en un 30 a 45% de todos los casos; mientras que los restantes casos fueron diagnosticados en exámenes de rutina como series radiológicas de estómago y la prueba de Graham-Cole, o hallazgo accidental en la mesa operatoria en casos de apendicitis o diagnosticados casos de hernia diafragmática, ulcera peptica, tumor de la cabeza del pancreas.

Colecistografía oral es un medio de rutina debido a que el enformo no siempre necesita ser admitido en el Hospital; se ha dado preferencia al uso del ácido iopanoico porque ha dado satisfactorios resultados. Casos en los cuales no hay satisfactorio resultado se recurre a una segunda prueba oral con la misma dosis o sea con seis tabletas de ácido iopanoico de 0.5GM que se toman a las 3 p.m. del dia anterior al exámen radiológico. El en-

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From the Surgical Service, Illinois Masonic Hospital, Chicago.

Read at the Tenth International Congress of the International College of Surgeons, Mexico D.F., Mexico, Feb. 24-28, 1957.

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fermo toma una comida con grasas; a las 3 de la tarde toma las tabletas citadas con 5 minutos de intérvalos; dieta líquida moderada durante las horas que siguen y exámen radiológico a las 7 a.m. del día siguiente, después de lavado intestinal.

En casos de enfermos encamados o en los que visualización de la vesícula no está de acuerdo con el cuadro clínico, colecistografía intravenosa es practicada; básicamente la técnica no difiere mucho de la que se practica en la mayoría de los hospitales del medioeste de este país. El paciente es usualmente examinado en la mañana después de que el intestino es limpiado con aceite de castor. Excepto en pocos casos, pacientes han recibido 40 c.c. de 20% de la solución. El paciente es colocado en la posición supina con el lado izquierdo elevado aproximadamente 15 grados. Radiografías son seriadas cada 10 a 15 minutos por un período de 15 minutos. Si la vesícula es presente y visualizada el exámen se prolonga hasta la completa opacidad de la vesícula. Cada radiografía es vista por el radiologo y los factores técnicos son ajustados como sea aconsejable.

Reacciones han sido encontradas en diferentes grados en cerca de 11.8% de los casos examinados, como urticaria, naúsea y vômito, mareos, escalofrios y critema. Casos que son controlados con antihistamínicos.

Colecistografia Operatoria.—Primaria o sea cuando se efectúa durante la operación pero antes de la exploración quirúrgica de los conductos biliares, es poco practicada.

Secundaria o sea cuando es efectuada después de la exploración instrumental de los conductos biliares, es un procedimiento de incalculables resultados prácticos. Este procedimiento puede efectuarse através de un tubo plástico o Small tubo de Polyethylene, de acuerdo con la tecnica demostrada en la proyección. Este tubo se introduce en el conducto cístico de 1 a 2 cms. y se liga como se demuestra; para mejores resultados se deben cumplir los siguientes requisitos:

1. Equipo portatil de Rayos X.
2. Lysholm grid.
3. Medio de Contraste (Diodrast, Iodopyracetino, 35%).
4. Acido colorhídrico 0.01 en el duodeno.
5. Medios de obtener posición lateral del paciente.
6. Mucha cooperación y voluntad de parte del radiólogo.

Una vez que el tubo plástico o el de Polyethylene está en conducto cístico, se liga; se instila ácido colorhídrico en el duodeno, se aspira el duodeno tratando de remover sales biliares, se coloca al paciente en posición de Trendelenburg y ladeado a la derecha y el anestesista provoca apnea transitoria.

Se inyectan 2 a 3-5 c.c. y la primera placa se toma; cambio de caseta y se le vuelve a la posición anterior de la toma radiográfica. Se inyectan de 10 a 15 c.c. restantes. Si el coledoco es muy dilatado se aspira bilis a efecto de diluir el 35% de la substancia. Demostración del medio opaco pasando facilmente del coledeco dentro del conducto de Wirsung es facilmente comprobada en la proyección. Frecuente a través del tubo en T burbujas de aire se colocarán en las vías biliares, lo cual se arregla irrigando el tubo en T con solución salina cuantas veces es necesario.

Colecistografía post-operatoria es un medio diagnóstico en cada aparición de un cuadro de obstrucción biliar, días, meses y hasta años, como en el caso del enfermo de W. Walters, en el cual tubo en T estuvo 5 años en el coledoco.

Nunca se administra la substancia radioopaca a individuos con ictericia; porque los resultados son pobres en visualización de la vesícula y se puede producir daño al parenquima hepático en los casos de que se trate de un caso de ictericia médica.

Conducta a Seguir con el Enfermo con Diagnostico de Colecistitis Aguda, Cole-

cistitis Cronica, Vesicula Calculosa y Sin Calculos.—Como en cualquier centro médico, la opinión es muy dividida y ambas partes presentan fuertes argumentos en favor o en contra de inmediata operación.

En nuestra experiencia fueron 12 casos los que requirieron cirugía de emergencia por razones de peso como ruptura de la vesícula biliar y empiema de la vesícula. De lo contrario el criterio fué bastante conservador y el grupo de P. Shambaugh, A. Hjresa, W. C. Bornemeier argumentan que colicistitis diagnosticada aguda y con tratamiento quirúrgico inmediato o dentro de las 12 horas siguientes de la admisión tiene una mortalidad y morbilidad altas.

Que la mayoría de los Ataques de colecistitis aguda se alivian espontáneamente y sin complicaciones. Una colecistectomía a corto intérvalo se efecturá con más grande márgen de seguridad que durante el ataque agudo.

Que operación efectuada en el período de quietud, Colecistectomía es el método de elección; mientras que en esado agudo Colecistostomía es el método indicado pero tarde o temprano Colecistectomía se habrá de efectuar.

Que prudente espera, mejora el diagnóstico; pues se tiene que tener en cuenta que aún en los hospitales más prominentes hay un error diagnóstico de 30 a 50%.

Que operación durante el período quieto permite fácil identificación de los conductos coledoco, hepático, cístico y los vasos arteriales y venosos.

Seis semanas después del período agudo, es aconsejable.

En favor del criterio de inmediata o temprana operación en colecistitis aguda, L. W. Peterson, y colaboradores indican que:

1. La evolución de una colecistitis aguda no se puede predecir y que no siempre se puede uno guiar de los signos y síntomas para evaluar el progreso o receso del cuadro clínico. Que la Operación temprana previene complicaciones.

2. Que temprana operación dentro de 24 a 48 horas permite facilidades técnicas, porque las adherencias son fibrinosas y la inflamación de la vesícula provee un plano de clivage que facilita la disección.

El Problema Diagnostico de Ictericia Medica e Ictericia Quirurgica.—Es este un problema aún no resuelto, no hay específico medio de laboratorio diagnóstico, ni siquiera una batería de pruebas de Laboratorio que nos de la clave del problema de diagnosis diferencial. Es el exámen cuidadoso, la historia clínica completa unida al dato de laboratorio lo que nos dará la pauta. Aquíen la proyección se verá un tipo de hoja diagnóstica que debería estar en cada record de enfermo con ictericia y que debe ser llenado por el Clínico más competente a la mano con la ayuda del interno o residente, con la seguridad de que la enseñanza será inmensamente rica y estimulará especialmente al joven cirujano o internista en el apasionante problema, que puede traducirse en muy dolorosa tragedia o la compensación más esplendorosa para enfermo y médico. Afortunadamente en nuestra experiencia no tuvimos más que 27 casos, de los cuales 18 fueron operados habiendo hecho el diagnóstico correcto en 65% de los casos de ictericia.

Recientemente han sido revisado el problema de la Ictericia producido por Clorpromazina, aunque en nuestro hospital no ha sido reportado ningún caso específico, es de notar que según le experiencia en el Depto. de Medicina de la Universidad de Illinois y según comunicación de L. Kisner, Laipply y colaboradores una sola tableta es capaz de producir este tipo de ictericia pue puede ocasionar una intervención quirúrgica; porque al cuadro es igual al de obstrucción hepática del tipo de colangitis, aunque realmente el mecanismo de la ictericia es debido a una reacción alérgica.

El cuadro es de infiltración peri-portal y trombo biliar, los espacios peri-portales presentan numerosas celulas mononucleares y granulocitos al mismo tiempo que proliferación en conducto biliar.

Hasta el presente día han sido reportados en la literatura mundial 51 casos de este tipo, desde 1947. Con un promedio de 7 días de duración de la ictericia, hasta 150, con promedio de 41 días fué reportado en la serie de 12 casos por Charles Daugherty y L,. S Shem. Proyección.

Colangitis es también presente en caso de hepatitis a virus (M. Eliakim, Rachmilevitz, revisión). 24 Casos que recibieron transfusiones en los 6 meses que les precedía al inicio del cuadro de ictericia que fué sospechado ser debido a ictericia de suero homólogo.

Características:

1. Presencia de fiebre por 5 o más días después de la aparición de ictericia.
2. Marcado Prúrito.
3. Elevada S. A. Fosfatasas Alcalina arriba de 5U B.
4. Elevado Colesterol total a 250 U%.
5. Sedimentación eritrocítica más de 16 mm Westergreen.

Toluylenediamine, produce experimentalmente en animales el mismo tipo de ictericia creando un aumento de la permeabilidad de los capilares intrahepáticos.

Hanger y Gutman presentan 12 casos y uno propio de ictericia obstructiva debido a inyecciones de Arsphenamine, con los siguientes:

1. Ictericia.
2. Prúrito.
3. Fiebre.
4. Alta fosfatasa alcalina y colesterol.

Un caso reportado durante el curso de dinitrophenol, en el tratamiento de obesidad, dió el cuadro típico de ictericia obstructiva Werner a. A.J.M. 7: 325-1956, seis casos de pacientes que desarrollaron ictericia durante el tratamiento con Methyltestosterona.

1. Elevada Fosfatasa Alcalina.
2. Elevada T. C.
3. Normales valores de C. CF.

Lloyd, Thomas, Sherloch, Allan Kaplan, J.G. E. Vol. 31, 385-Oct. 56. Reporta el caso de 58 años de edad, con tratamiento a base de lingüets, tomando 20 mg diarios por 6 meses; ictericia con prúrito asociada con fatiga, naúsea y vómito. Readmitido y 5 días después acolía, dolor en el cuadrante superior derecho; hepato-esplenomegalia, hígada doloroso, 4 dedos debajo del reborde costal.

Biopsía del hígado con la aguja de Viem Syverem.- Methyltestosterona descontinuada; recuperado en 76 días. A. Fosfatasa elevada.

Consideraciones Tecnica Operatoria.—Shambaugh y colaboradores preferen la incisión trasversa subcostal o media, argumentando que así el paciente respira más facilmente después de la operación y que la insidencia de atelectasis es muy baja, en cambio A. Hjresa y L. W. Peterson prefieren la incisión media y paramedia que permite exploración muy facilmente de la cavidad abdominal, es de citarse el caso del enfermo de 54 años de edad con Patología Biliar en el cual estudio radiológico de estómago fué negativo.

Pero debido a la exploración cuidadosa sistemática durante el periodo operatorio fué encontrada esta ulcera con intensos cambios de malignidad esto es una demostración de que rigurosa exploración debe ser efectuada siempre del contenido abdominal.

La cuidadosa identificación de cístico colédoco arteria hepática y arteria cística es un mandato que debe procurarse que el muñón cístico no sea más largo de 3 mm. porque se ha comprobado que con muñón más grande hay gran porcentaje de neugroma del muñón cístico causa del dolor de la post colicistectomía que la ligadura de la arteria hepática derecha que es fatal en 50% y en los casos restantes la convalecencia es tormentosa, con atrofia del lóbulo derecho del hígado.

Que la arteria cística debe ser identificada y ligada separadamente de los elementos vecinos y recordar que hay un 15% de arterias cística acsesoria si esta es cortada introducir el dedo indice izquierdo dentro del foramen de Winslow abajo de la arteria hepática la cual es comprimida entre el indice y pulgar.

Indicaciones para la Exploracion del Coledoco.—1. Ictericia reciente o presente. 2. Cálculo-S palpable-S. 3. Visualización radiológica del cálculo. 4. Dilatación del conducto cístico. 5. Aspiración de bilis teñida con abundante sedimento. 6. Multiples pequeños cálculos en la vesícula biliar en conjunción con dilatado conducto cístico. 7. Engrasamiento del colédoco o endurecimiento de la cabeza del pancreas o ambas. 8. Cuando hay duda.

Complicaciones Post-Operatorias.—Entre las complicaciones post-operatorias más frecuentes se han presentado en el orden como sigue:

1. Distención abdominal post-operatoria.
2. Pneumonía.
3. Infección de la herida.
4. Abceso sub-diafragmático.
5. Peritonitis por bilis.
6. Fístulas.

CONCLUSIONES

1. Estudio radiológico es de incalculable valor en casos de Patología Biliar pero nunca substituye el diagnóstico clínico basado en cuidadoso estudio del enfermo y de los síntomas y signos.

2. En caso de duda en un paciente con negativo exámen radiológico pero con persistentes signos y síntomas, operación es el método a seguir.

3. El problema de diagnóstico diferencial entre Ictericia Médica e Ictericia Quirúrgica es un problema aún no resuelto pues no hay específico método de laboratorio diagnóstico ni una batería de pruebas que substituyan el criterio clínico.

4. La técnica operatoria debe ser simple procurando nunca tramatizar las Vías Biliares innecessariamente nunca olvidar el adagio que dice: todo debe ser visualizado e identificado antes de que algo sea cortado.

◆

Galen thought little of his compatriots, insulting them in his writings. He possessed a highly polished style and was exceptionally addicted to polemics, which redounded to the detriment of his authority. His advice was sometimes reasonable, but the grounds on which he based it were often trite. As a psychologist he stood above any Renaissance medical writer, since he realized that medical treatment of psychoneuroses required a psychologic understanding; but at the same time he revered authority and authoritarianism, ascribing his own opinions to his teacher Herophilus, as Saint Thomas Aquinas would refer his to Aristotle.

—*Marti-Ibañez*

Editorials

Radiation in the Service of Surgery

EUGENE F. LUTTERBECK, M.D., F.A.C.R.*

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MEDICAL history tells us that the achievements of modern surgery were not based only upon their own accomplishments but depended also on the contributions of related sciences. Celsus, in his book *De Medicina*, gave a description of an ideal surgeon in ancient times (30 A.D., shortly after Hippocrates). He said, "The Surgeon should be young, have a firm hand and a keen eye. He should be able to pursue his operation, disregarding bleeding and undisturbed by the agonizing cries of the patient." For many centuries thereafter the surgeons had to have stronger nerves than average. They had to be able to tolerate the noise of the patient, the unexpected hemorrhage and the almost unbearable odor from infection.

These horrors of the operating room lasted a long time, as is well known, but finally began disappearing during the middle of the nineteenth century. The discovery of anesthesia relieved the patient from pain. The discovery of asepsis successfully fought infection, and toward the end of the nineteenth century the surgeons learned to control bleeding effectively. Another important milestone in the building of modern surgery was the utilization of newly discovered forms of radiation shortly before the end of the nineteenth century.

I am concerned here with this latest phase of the evolution of sciences related to surgery. The teaching of radiology has traditionally been a part of a course in general surgery and physical medicine, particularly in European universities. In keeping with the purpose of this historical series, I shall confine myself to the historical development of radiology in diagnosis and in therapy.

The Evolution of Modern Physics. — Speaking of radiation, it is obvious that one can understand the full significance of the newly discovered rays to surgery only by recalling first, briefly, the history of nuclear physics.

At the end of the nineteenth century scientists felt that the fundamental principles of physics had been well established. Nothing remained but to strive toward more accurate measurements and appraisal of known physical experiments or observations.

It was in 1895 that Roentgen, as a professor of physics at the University of Würzburg in Germany, was engaged in such experiments. Electricity and magnetism were well known by that time. One could distinguish between conductors and nonconductors, between positive and negative electricity. Even as far back as *1785* the discharge of electricity through evacuated tubes was observed by Morgan in England, who probably had produced roentgen rays at that time without being aware of it.

Fluorescence was a fascinating phenomenon, attracting the interest of many investigators. In 1869 Hittorf discovered the cathode rays by observing the discharge of electricity through glass tubes, and Crooks was able to demonstrate that they could be bent by magnetic forces. It is generally believed that Roentgen was stimulated to experiment with the cathode rays by a publication of Lenard, in which he reported that cathode rays striking a thin window also emerged into the surrounding air. Roentgen suspected that these might be different rays and set up his now famous experiment.

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To observe the rays better, he worked in the darkness. He covered the tube with black paper to keep the light out, and he used a thick black cardboard covered on one side with barium platinocyanide. These crystals were frequently employed in the past to demonstrate the presence of poorly visible types of radiation, such as ultraviolet. Roentgen could show that his screen revealed a brilliant fluoroscence even when it was turned around and as far as 6 feet from the tube. In other words, the rays were able to penetrate a thick cardboard, something that, until then, had been entirely unknown. Within eight weeks of intense work, Roentgen was able to describe all the important properties of the new rays and reported them before the Society of Physics and Medicine at the University of Würzburg on December 28, 1895, and again four weeks later at the University of Berlin in the presence of Kaiser Wilhelm II. These reports, entitled "On a New Kind of Rays," covered the effect of these rays on a photographic plate and their penetration and partial absorption in passing through various materials such as glass, wood, paper, flesh and many different metals. He described the fluorescence and the electrical conductivity of the air, which we call "ionization effect" today, and he mentioned that he was unable to reflect or bend the new rays. At the end of the meeting in Berlin, Prof. Koelliker asked Roentgen to take a radiograph of his hand. It was shown immediately to the audience, which gave Roentgen a tremendous ovation. It was the surgeon Koelliker who suggested, at that historic meeting in Berlin, that the "x rays" be called roentgen rays in honor of the man who had discovered them. Later (in 1901) Roentgen received, as is known, the first Nobel Prize in Physics.

During the forthcoming months of 1959 and as long thereafter as possible, the editorial pages of the Journal of the International College of Surgeons *will be honored by presentations of rare and extraordinary historic value, the lectures presented at the International Surgeons' Hall of Fame on medical and surgical history from the earliest recorded achievements to those of our own times. We believe that* Journal *readers who were not able to attend the lectures will find them as exciting as did the audiences present at their delivery. The story of progress in the healing arts and the giants of medicine and surgery to whom we owe the amazing brilliance and scope of modern achievements is intrinsically thrilling and is a vital part of the education of every cultivated man and woman, inside or outside the profession. It is altogether fitting that it should appear in these pages, since the International College of Surgeons is first, last and always a teaching institution.*

Now it was realized that the fundamental principles of physics were far from being well established. Again it was the fluorescent effect that intrigued the physicists. The thought arose, "Maybe some of the minerals that are fluorescent by nature emit penetrating rays also." In 1896 Becquerel of France tested, systematically, many substances and observed that certain compounds of uranium left their images on photographic plates, even when these were covered with black paper. He noticed further that these rays, just like the roentgen rays, could also discharge an electroscope, and he reported his startling observations to the French Academy of Science in the same year. Marie Curie, a young student from Poland at the Sorbonne, looking for a suitable subject for a doctor's thesis, became interested in Becquerel's work and was asked to look further for other compounds. She discovered that a certain sample of uranium ore (pitchblende) from Austria emitted four times as many rays as did the French ore. In 1898 she succeeded, with her husband Pierre, in processing a ton of the Austrian ore and isolated two new elements, polonium, with the atomic number of 84, and radium with 88. They discovered that pure radium emitted 2,500,000 times as many Becquerel rays as did the same quantity of uranium. The Curies and Becquerel shared the Nobel Prize in Physics in 1903.

This marked the discovery of the first element that differed strikingly from all the others known. It apparently disintegrated by itself, right before one's eyes.

Man-made roentgen rays and the radiations given off naturally by radium were the two new types of radiation to serve surgery and medicine. One should, however, keep in mind that other types of radiation served as well, and long before the discovery of the ionizing rays. The benefit of radiation from sunlight, ultraviolet light and heat has been known since ancient times. It is, however, not my intention to discuss these here.

Man learned also to produce radiation identical to that given off by radium. To understand these rays, particularly in their ability to serve modern surgery, one must consider briefly the evolution of artificial radioactivity.

The discovery of the roentgen and Becquerel rays led to an entirely new concept of nature and atomic structure.

In 1897 the English physicist Thompson suspected that there must be some smaller parts in the universe than atoms, considered since Newton the smallest particles of elements and indivisible by any physical or chemical force. Again the cathode rays played a historic role. These rays had to have an electrical charge, because they were caused to deviate in their passage by a magnet. Thompson concluded, therefore, that these rays must consist of very small particles. He measured their charge and mass and called them electrons. They were 2,000 times lighter than the hydrogen atom.

Again, the invisible rays of uranium and radium led to further important knowledge of vital interest to surgery and medicine. In 1897 and 1898, Rutherford, the English physicist, was able to show by experiments that the new rays were composed of three different types, each of which acted in a different way on living tissues. The alpha rays consisted of nuclear particles of the atom; the beta rays were negative electrons, and the gamma rays were similar to the roentgen rays, except that they were more penetrating.

But what about the periodic system of the 92 elements of nature, which had been known and accepted since 1869 through the work of the Russian chemist Mendelejeff? Not until 1918 was this relation understood. The young English physicist Mosley observed that the atomic number of the periodic system was identical with the number of electrons and the charge of the nucleus, starting with Element No. 1, hydrogen, with 1 positive charge in the nucleus, the proton and one electron attached to it. It was Niehls Bohr, the Danish physicist, from whom it was learned a little later that these parts of the atom do not stand still; that the structure of the atom is a solar system in which the electrons circle around the nucleus like planets around the sun. Just try to visualize the effort it took to adapt one's thinking to the fact that there is something like a constant change, a coming and going, a motion in an element that had always been considered stable and therefore different from living matter.

The gamma rays had something in common with the other known types. They traveled with the same speed (that of light), but they all had different wave lengths and different frequencies. The spectrum of the different rays became of great interest to medicine and biology. The long heat waves, the visible light, the ultraviolet, the roentgen and gamma rays—all were studied in their action upon the human body. But where did the beta rays and the alpha rays fit into this picture? It was the German physicist, Planck, who suggested in 1901 that the new rays be considered not only as electromagnetic waves but as bullet-like particles, as photons with differing amounts of energy expressed in *quanta*. In other words, 1 quant of roentgen or gamma rays had greater energy than 1 quant of visible light. And it was Einstein who enlightened the scientific world on the relation between mass and energy, who predicted in 1905 that man could transfer one into the other. It was then realized that the energy of the alpha particles was 400 million times as great as the energy of steam from water. These alpha rays were used by Rutherford in 1919 to bombard nitrogen atoms, and he discovered that the nuclei disintegrated, giving off hydrogen and at the same time leaving oxygen. Thus, for the first time in history, the dream of the middle ages had come true. Man was able to convert one element into another. Now one could make gold out of iron.

And finally in 1934, only 25 years ago, artificial radioactivity was discovered in 1934 by Irene Curie and her husband Frederic Joliot. The powerful alpha rays of radium were used again, this time to bombard aluminum and beryllium. To the amazement of the investigators, these metals continued to radiate and emit protons, even *after exposure to the alpha rays had ceased.* This discovery led to the construction of many atom-smashing devices; the cyclotron, the synchotron and the atomic piles. Owing to this development, thousands of artificial radioactive substances can serve surgeons today in diagnosis as well as in therapy.

The Evolution of Roentgen Diagnosis in the Service of Surgery.—So much for the evolution of modern physics. It was the practical application of the new forms of radiation that made them so valuable to surgery.

Immediately after his discovery of the "x rays," Roentgen was asked by the surgeon, Koelliker, whether it would be possible to make x-ray photographs of other parts of the body than bones. Roentgen stated that this was not possible now. He had found in his experiments that organs, nerves, muscles and veins had the same density and therefore could not be distinguished from one another. Here appeared the natural desire of surgeons and physicians to utilize the new discovery further, in order to visualize anatomic structures theretofore seen only in the operating room or at autopsy.

All physicians and surgeons should realize how much they owe Roentgen and the Curies for not delaying or hampering the use of their newly discovered ray by taking out patents, by demanding licenses or by accepting the most tempting financial offers from industry all over the world. They published their discoveries freely in scientific journals and followed the high tradition of university professors who believed that their discoveries and inventions belonged to humanity and not to an individual.

The evolution of roentgen diagnosis depended upon the perfection of roentgenographic equipment and technic and the development of constrast mediums.

No surgeon would undertake the risk of many operations today without getting ample information as to the location and extent of the disease. Often, nowadays, modern diagnostic roentgen examinations of the heart, lung, the stomach and other organs are taken for granted. Let us look back to see how they were developed to serve surgery.

It was clear that the surgeons immediately made full use of the new rays. By taking roentgenograms of bones, they were able to demonstrate fractures and dislocations without pain to the patient, and they learned how to diagnose bone infections and tumors. Extremely valuable was the diagnosis and localization of foreign bodies, which was particularly helpful to the military surgeons. The roentgen rays also enabled the surgeon to study the immediate and late results of his work. The legal significance of the new practice was recognized as early as 1896. Here is one example: A surgeon had fixed a fracture of an arm, but the arm was never useful. A friend of the patient, a physicist, took a picture with a Crook tube. It revealed that the bone had been set in a very faulty way. The comment of the patient was: "It is a good thing that the surgeon who set my arm is dead now, otherwise I would certainly have taken action against him."

By this time the members of the medical profession wanted to see more than just bones, and a feverish search was made for contrast mediums of various types that would make it possible to visualize the inside of the body. First, metallic sounds were introduced into the esophagus in cadavers and pictures were taken. In 1896, patients were asked by Hemmeter in Boston to swallow capsules filled with iron or bags containing lead solutions. Williams of Boston used, as early as 1899, bismuth nitrate solutions on a cat to demonstrate the stomach and intestine. It was Rieder of Munich who formulated the barium meal to study the gastrointestinal tract in 1904; he was followed by Bachem and Gunther, who in 1910 propagated the use of the much cheaper and less toxic barium sulfate. Haenisch established the use of the enema with barium sulfate to visualize the colon in 1911. This was followed by the use of air as a contrast medium in 1922.

The diagnosis of renal diseases posed a more difficult problem. Stones were seen in the early days; they had to contain calcium, however, to cast a shadow. The French urologist Tuffier filled a catheter with lead in 1897; a bismuth suspension was used by Klose in 1904; Voelker and von Lichtenberg used collodial silver in 1906, and in 1919 the American radiologist George Pfahler used injections of air and iodine solution to demonstrate lesions of the bladder.

From 1910 up to the late 1920's, much use was made of air as a contrast medium. The surgeon Bauer injected it into the thoracic cavity to distinguish beween pulmonary and pleural disease. In 1910, Jacobaeus injected it into the abdomen to visualize, indirectly, the liver and spleen. In the early 1920's the Italians Carelli and Sardelli used this method to visualize the kidneys and adrenals by filling the periadrenal regions with air. In 1918 the scientific world learned of the ingenious intraspinal route by which the American surgeon Dandy and his co-workers were able to demonstrate the ventricles of the brain, and to diagnose many diseases amenable to surgical treatment.

One of the greatest advances in contrast mediums, however, came from France: the use of iodized oil by Sicard and Forestier in 1921. This oil could be injected into the trachea to visualize the bronchi and to detect obstruction or other pathologic change. It could also be injected into the uterus and tubes, fistulas, sinuses, and seminal vessels; injected into the spinal canal, it could demonstrate slipped discs, tumors or other pathologic conditions affecting the spine.

Thus far, the contrast mediums had all been chemicals with molecules heavier than flesh. They belonged to the halogen group and served as an important tool in surgical diagnosis by casting a shadow on the roentgen film.

In 1923 an entirely new concept was tried — the utilization of a physiologic process. Graham and Cole knew that sodium tetracholorphenolpthalein, used as a purgative since 1909, was excreted by the liver. They had the brilliant idea of adding iodine to the compound, and thus were able to visualize the gallbladder and its ducts.

A similar physiologic principle was used by Rowntree in 1923 to further the diagnosis of diseases of the urinary tract. They injected large quantities of sodium iodine solutions intravenously in order to visualize the kidneys and the bladder. This method was greatly improved in the late 1920's by Lichtwitz, Swick and von Lichtenberg, who discovered, with the help of chemists, organic iodine compounds that concentrated better in the kidneys and were less toxic than the saturated iodine solutions used by Rowntree.

I believe it is fair to say that today the roentgen rays play a vital role in the diagnosis of many surgical conditions, particularly in the early diagnosis of carcinoma, which is still the prerequisite for a favorable prognosis. One should keep in mind, however, the fact that since 1895 we have not been able to visualize a great number of structures mentioned in Roentgen's early report. We have not found a method yet that will demonstrate muscles, ligaments, cartilage or nerves, and our attempts to demonstrate such organs as the pancreas, liver and spleen are still inadequate.

In discussing the evolution of roentgen diagnosis, one must realize that not only the roentgen rays were destined to serve surgery. The discovery of the Becquerel rays and of radium, plus the production of artificial radioactive substances, opened another new path in diagnosis, which I am sure neither Becquerel nor the Curies ever anticipated. Minute quantities of radiations of these substances are serving as labels or tracers in the study of almost any physiologic or chemical process today. The basic principle of this method lies in the fact that radioactive and nonradioactive atoms of the same element behave identically. Instead of contrast mediums, we are looking now for elements or compounds that are stored for certain periods of time in various locations. We tag each with its radioactive partner and detect or trace their gamma or beta radiation with delicate instruments. Most startling was the use of radioiodine, first given to a patient 21 years ago (1938) in San Francisco. Since the iodine is stored mainly in functioning thyroid tissue, it served to detect the gland in a manner anatomically nearer to accuracy than could the human eye or the touch of a surgeon's hand. Radiosodium has been found suitable for important circulation studies, and radioactive carbon has materially widened current knowledge of the effect and action of most of the useful drugs.

The Evolution of Radiation Therapy in the Service of Surgery.—Practical applications of the newly discovered rays were not confined to the field of diagnosis; they contributed to therapy as well, particularly in the treatment of carcinoma.

That the roentgen and Becquerel rays had an effect on living tissues was learned first by accident and often by sad experience leading to irreparable damage and death to many of the early investigators. This was due to the fact that the new rays used in diagnosis failed to cause any accompanying sensations in the patient, physician or technical personnel. In the early years no one had any idea of the significance of dosage levels.

The Evolution of Physical Dosimetry in Radiology: The new rays were judged first by their biologic effect. Before any instruments for measurement were available, the only statement one could give was based on "time." An exposure with a given machine or source of radiation took a certain number of minutes or hours to produce a first-degree reaction or slight redness of the skin; a second-degree reaction with vesicules, or a third-degree reaction with ulcerations.

With the development of voltmeters and amperemeters, we learned in the case of the roentgen rays to record more than time. We could define the current used in an individual case, thereby giving others the opportunity to repeat a certain treatment in the same manner. This was the indirect method, which still did not reveal anything about the intensity of the radiation that reached the diseased area. The first such attempts were made on the skin.

The first dosimeter was constructed by the French physicians Sabouraud and Noiré. It was known to them that barium platinocyanide crystals changed from lemon yellow to orange when exposed to the roentgen rays. They discovered that, if one places these crystals halfway between the tube and the patient, this color change will occur just at a time when an epilation dose is reached. Holzknecht, the Austrian radiologist, improved this method later by using standard colored discs for comparison, a device that was in practical use up to the late 1920's.

The new rays changed the color of certain compounds. That was one way of measuring them. Another was the effect on the photographic plate. Kienboeck, the famous Austrian radiologist, recommended this principle in 1900. He used strips of photographic paper in black envelopes and divided them into ten different intensities, all being fractions of an erythema.

These and many other early devices measured the radiations only on the skin and gave no information about the dose that reached deeper layers during penetration.

Again, Roentgen's first observations form the basis of all modern measurements of radiation. He stated, "Electrified bodies in air charged either positively or negatively are discharged if x-rays fall upon them and this process increases with the intensity of the rays." Twelve years later, in 1908, the French physicist Villard made the first proposal of a unit of dosage based upon this ionization effect of the air. One unit was that amount of radiation which liberates one electrostatic unit of electricity per cubic centimeter of air under normal temperature and pressure. Many instruments were designed in the following years, from a simple electroscope and electrometer to many types of ionization chambers by physicists all over the world. Finally, in 1928, at the Second International Congress of Radiology in Stockholm, an international unit was defined and adopted. This unit was called the roentgen and designated by a lower case r. It was defined as that quantity of radiation which produced in 1 cc. of air under standard conditions, 2,700,000,000 pairs, carrying a current of 1 electrostatic unit.

In later years, gamma and corpuscular rays were incorporated in the definition, and they form the basis of present-day dosimetry and radiation therapy. In other words, it had to be determined what different quantities of radiation, expressed in roentgens, will do when they strike normal or pathologic tissues.

The Evolution of Biologic Effects of Ionizing Rays: Knowledge of the biologic effects of irradiation has also passed through various phases of growth.

Roentgen mentioned it only once in his early report of 1895: "The retina of the eye is quite insensitive to the rays; the eye placed close to the apparatus sees nothing."

The first paper with the title "Roentgen Rays Act Strongly on Tissues" was published by a physicist, Thompson of Boston, in November 1896. He reported that the roentgen rays were able to produce dermatitis, and by experiments he was able to prove that this inflammation developed only in the area exposed to the rays.

Before any physical instruments were available, the dose of radiation was judged by its effects on the skin, mainly erythema and epilation. These cutaneous reactions, strangely enough, did not occur immediately after exposure to the rays but took place two to three weeks later, a phenomenon described by Kibbe and Gilchrist in the United States as early as 1897. These workers were also aware of the cumulative effect of the rays. The skin reactions led to the large field of dermatologic radiation therapy.

The fact that many of the early workers in radiology became sterile instigated Albert Schoenberg of Hamburg to study the effects of irradiation on animals. He reported in 1903 that guinea pigs produced no litters after exposure to the rays; and in 1904 Heineke shed further light on the selective effect of irradiation when he reported, on the basis of animal experiments, that lymphoid tissues were more sensitive than others.

These observations were confirmed by the French physicians Bergonie and Tribondeau through animal experiments and histologic studies of various tissues. In 1906 they summarized their observations in the form of a law: "*Immature* cells and cells in an *active* state of *division* are more sensitive to radiation than are cells which have *already acquired their adult morphological* and physiological character."

It was soon realized that the sensitivity of normal tissues of the human body varies in a certain order, from the highly sensitive blood cells through the ovaries and testicles up to the radioresistant muscles, bones and nerves. A similar scale was established for pathologic tissues, beginning with the highly sensitive inflammatory cells and ending with radioresistant tumors such as melanosarcoma.

The sterilization effect was often not permanent, and as early as 1906 the question of possible hereditary effects was discussed. In 1907 Bardeen reported abnormal development of the ova in animals fertilized by irradiated sperm. In the 1920's more extensive investigations were made by Mueller of Indiana, which form the basis of current knowledge of the genetic effects of irradiation on future generations, all, however, based on animal experimentation.

It was not until more had been learned about the structure of the atom and the nature of the rays that a better fundamental understanding of the biologic reactions to irradiation was possible. These effects are due to the formation of ions in living cells, causing various degrees of damage from a slight irritation to complete destruction. The severity of this reaction depends upon the production of a certain number of ion pairs per mass of tissue. It depends also upon the distribution of ions and the rate at which they are produced, regardless of the source of the ionizing rays.

As a result, physicians and biologists were able to carry on from where the physicists left off. We learned that erythema (redness of the skin) could be produced by 200 to 1,000 r, depending upon certain physical factors. We learned that inflammatory cells could be destroyed by a few hundred r; that permanent sterilization could be accomplished by delivering 600 to 800 r to the ovaries or testicles, and that the average carcinoma cell requires about 6,000 roentgens to be permanently destroyed.

The Evolution of Radiation Therapy in the Service of Surgery: But it was also in the field of therapy that the practical application of the newly discovered rays became so important to surgery and medicine as well. Unwanted and accidental damage caused by irradiation led to its use in treating various diseases. In this respect roentgen and Becquerel rays acted no differently from most of the drugs used in medicine. They were dangerous and poisonous. All through history it was the search for the *right* dosage levels that made the use of irradiation in its many forms so difficult, a problem which is still with us *today.*

The first period of radiation therapy was characterized by empiricism and experiments. Chicago was actually the birthplace of therapeutic radiology. Dr. Grubée, a manufacturer of roentgen tubes in his early days, who is still living but suffering from severe irradiation burns, treated the first inoperable carcinoma of the breast by irradiation in January 1896. Since the rays were able to produce dermatitis on normal skin, a friend of his, a physician, suggested that he try the effect of roentgen rays on a patient with carcinoma.

Credit for a more scientific approach to the use of roentgen rays, however, goes to Freund of Vienna, who in January 1897 treated a young girl with a hairy mole to obtain permanent epilation. Logically, he followed a report by Daniel of Vanderbilt University published in April, 1896. In photographing a patient's skull with roentgen rays, Daniel observed complete loss of his patient's hair three weeks after the picture was taken. The exposure time was an hour and a half, as compared with about one-tenth of a second today.

The medical use of radium was also accidental. In 1901, Becquerel carried a glass tube containing radium salts in his pocket and noticed, to his surprise, a red mark on his abdomen, having the appearance of a slight sunburn, an observation that gave immediate rise to further human and animal experiments.

It is obvious that, in this first period, radiation therapy was confined to diseases of the skin. Often the results were excellent. Between the years 1897 and 1902 superficial roentgen therapy was used by numerous European and American physicians in the treatment of lupus, psoriasis, fungus infections, chronic eczema, pruritus and many other conditions. In 1902 and 1903 the first successes in treatment of cutaneous carcinoma by irradiation alone were reported by Pusey, Beck, Coley, Pfahler, Skinner and others.

The second period in the evolution of radio therapy began in 1902 with the report of Senn of the United States, indicating that the rays affected not only the skin but deep-seated areas. In a case of leukemia, he succeeded in decreasing the number of white blood cells and reducing the size of the spleen by irradiation alone. This marked the beginning of high voltage therapy, followed in 1904 by the use of irradiation in gynecology by Deutsch and Foveau de Courmelles, who employed irradiation in the treatment of myoma of the uterus.

Roentgen rays were used from the outside. The application of Becquerel rays had to be done from the inside and required surgical skill. In 1905 Abbé of the

United States first inserted a radium tube into a tumor through a surgical incision and Oudin and Verchere of France implanted radium sources by surgical means into a uterus to irradiate a fibroid tumor from the inside. A similar surgical approach was reported by Duane of Boston and Janeway of New York in 1908, who placed radium emanations directly into a tumor.

In this second period the penetrating ability of the rays was increased by filters; this was first suggested by Perthes in 1903, and later by Meyer, Gauss, Dessauer, Pfahler and others. Further improvement was also made through the construction of transformers and increasing the voltage applied to tubes, thus making the rays more penetrating. It was mainly in the years between 1910 and 1918 that the methods of high voltage radiotherapy were worked out, particularly in the treatment of carcinoma of the breast, larynx and bladder and in the postoperative irradiation of many malignant tumors of the air and food passages.

The third period began with the general adoption of the roentgen (r) as a measurement of the quantity of radiation. Now it was possible to compare and repeat various methods of treatment.

One learned from clinical experience that there was a difference referable to the technic of application—whether a so-called full dose was administered over a short period of time, as suggested by Seitz and Wintz of Germany, or whether it was more advantageous to treat with small doses over long periods, as recommended by Regaud of France in 1914 and later advocated by Pfahler and Coutard in the 1920's.

The fourth period began with the discovery of artificial radioactivity in 1934. This was followed by the construction of new and more powerful sources of radiation such as million-volt machines, betatrons, linear accelerators and cobalt and cesium machines.

Radioactive isotopes not only served diagnosis but gained a permanent place in therapy. Again radio-iodine became the most prominent factor in the *internal* use of radiation, as in the treatment of toxic goiter or carcinoma of the thyroid, and radiocobalt for the *external* use of gamma radiation, gradually replacing radium.

One should, however, keep in mind that only the *ionization produced* in the tissues causes the effect, regardless of the source of radiation; in other words, the effect is independent of the wave length.

Let me close with the words of an American pioneer of radiology, George Pfahler, who said in 1945, on the fiftieth anniversary of the discovery of roentgen rays, that knowledge and skill in the use of the *radiologic* instrumentarium are as important as knowledge and skill in the use of *surgical* instruments, but they are more difficult to attain because the immediate results of irradiation cannot be seen. And let me add that by combining the knowledge and skill of surgeons and radiologists we can make our contributions to medicine and humanity even greater in the future.

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THE HON. LISTER HILL, SENATOR, U.S.A.
WASHINGTON, D.C.

AT THE entrance to the International Surgeons' Hall of Fame in Chicago there is a symbolic statue called "Hope and Help." This statue depicts a suffering patient whose eyes look upward into the comforting face of the surgeon.

From time immemorial, doctors have played the key role in the alleviation of human suffering. Theirs has been the truly international art, for, as the great Louis Pasteur wrote, "Science does not belong to any country, because knowledge is a patrimony of humanity."

The history of surgery is shining evidence of the truth of Pasteur's dictum. Medical historians date the first document on surgery, known as the Edwin Smith papyrus, to I-Em-Hotep, the earliest recorded physician, of ancient Egypt. Surgery then followed a cosmopolitan trail through Hippocrates, Galenus and Ambroise Paré to Andreas Vesalius, the father of the study of anatomy, who took corpses of executed criminals from the gallows that he might study them.

Early surgery was decidedly on the rough side. In fact, in ancient and medieval times most of the cutting was done by barbers, butchers, dentists, stonecutters and herniotomists. Through most of the history of mankind the surgeon had to work under almost unbearable handicaps; he had to perform without an effective anesthetic, and with no knowledge of asepsis and antisepsis. Preoperative and postoperative care were virtually unknown.

The modern age of surgery really began with the work of William Harvey, an Englishman, who in 1628 published his discovery that the heart pumps the blood continually through the body. Harvey was one of the great research scientists of all time—his animal studies over a twenty-year period laid the groundwork for modern physiology. A generation later Morgagni, an Italian, made many great contributions to understanding of the nature of disease, including the discovery that tuberculosis is contagious.

The Hon. Joseph Lister Hill, F.I.C.S. (Hon.)

The nineteenth century laid the precise groundwork for the miracles of twentieth century surgery. It was in the nineteenth century that Semmelweis, a Hungarian, pioneered in the use of antiseptic methods in childbirth. A Frenchman, Louis Pasteur, after proving that germs cause disease, developed a process to kill them. Joseph Lister, whose honored name I am privileged to bear, one of the greatest surgeons in medical history, applied the basic ideas of Pasteur to surgery. His use of antiseptics in surgery revolutionized operating procedures. My father studied under Joseph Lister in England and much of what he learned from him prepared him for that eventful night—more than fifty years ago—when on a wooden table in a Negro shack in Alabama, by the light of two kerosene lamps, he performed the first successful suture of the human heart in America.

It is but fair to state that the twentieth century has witnessed a Golden Age of surgery. In 1903 a Dutchman, Willem Einthoven, with his newly developed electrocardiograph, first recorded the electrical impulses in the heart. The years since have seen the introduction of surgical technics nothing short of miraculous. In 1939 Dr. Robert E. Gross repaired the first congenital heart defect to yield to surgery. In 1945 Drs. Alfred Blalock and Helen B. Taussig developed their famous "blue baby operation" to correct a combination of congenital heart defects which robs the blood of oxygen and the tissues of nourishment. This operation has been demonstrated in all parts of the world and has saved the lives of thousands of children.

It is impossible to summarize in a limited space the staggering advances of the past decade. In 1949, for the first time in the history of mankind, a surgeon, Dr. Charles Bailey of Philadelphia, performed an operation inside the heart. Today open heart operations are almost a commonplace, and surgeons now remove the aorta, the main artery leading out of the heart, and replace it with a plastic substitute.

The International College of Surgeons, founded in Geneva a quarter of a century ago, has played a major role in many of the exciting surgical and medical developments of recent years. Its guiding principle, "Science has no fatherland," is exemplified in the fact that its 13,000 members represent sixty-four countries. Its general surgical Congresses bring together outstanding medical minds and knowledge from all parts of the world. Its international postgraduate surgical clinics, which are held in a score of countries each year, bring the latest surgical technics to surgeons around the globe.

In a truly international spirit of dedication the International College of Surgeons has shipped supplies, instruments, sutures, material, gloves and drugs to impoverished countries whose surgical centers are most desperately in need of this vital equipment. The College sponsors research grants to deserving scientists and gives fellowships to surgeons desirous of improving their art through postgraduate study.

As new Sections of the College are established in various parts of the world, the standards of surgical practice are lifted, the gift of extended life is brought to many areas of the world where the Biblical threescore and ten years is still an unattainable goal. What this means, for example, to the struggling surgeons of Asia, far removed from large medical centers and struggling with staggering problems of infectious diseases which have been wiped out in the West, is told most movingly in the words of Dr. Muhammad S. Quereshi, speaking at the organization meeting of the Pakistan Chapter of the International College of Surgeons in 1952:

> "The establishment of this Chapter will enable us to render twofold service

to our country: it will place Pakistan at once on the international map of surgery, and will greatly help in the improvement of our surgical standards which means better service to Pakistan nationals . . . The College brings about wide, frequent and intimate contacts with the leading exponents of our art. Such contacts with men who have devoted their lives to the solution of surgical problems and have made lasting contributions to our profession are undoubtedly a source of great inspiration and will stimulate us to emulate them."

The late Dr. Elmer Henderson, that gifted and distinguished son of Kentucky who held the presidency of both the American Medical Association and the World Medical Association, probably best summed up the impact of the International College of Surgeons when, in 1951, in his farewell address as President of the American Medical Association, he said:

> "The work of the World Medical Association and of the World Health Organization and that of other groups, such as the International College of Surgeons, has assumed importance far beyond the field of medicine. By serving as forums for the exchange of ideas between men and women of vastly different backgrounds and environments, they initiate a realization of brotherhood that seems beyond the best efforts of diplomacy. Medicine's high role in world affairs is firmly rooted in the very nature of its own work."

In this second half of the twentieth century, America holds an increasingly solid position as the medical fountainhead of the world. Reversing the trend of the eighteenth and nineteenth centuries, the trek is now westward, across the Atlantic to the United States, to keep abreast of the latest developments in the art and science of medicine and surgery.

The Twenty-Fourth Annual Congress of the North American Federation was honored by U. S. Senator Lister Hill of Alabama in a Convocation address that will linger long in our memories. Speaking at the Civic Opera House in Chicago on the evening of Thursday, September 17, Senator Hill paid tribute to the College not only as a professional organization but as a powerful humanitarian force.

This appreciation was the more gratifying in view of the fact that Senator Hill, the son of a famous Southern physician, is a man who has devoted a great part of his Senatorial career to legislation favorable to medical and surgical progress. The nation is indebted to him for many important and far-reaching advances in this direction; to mention but one of many, the Hospital and Health Center Construction Act, by means of which the number of hospitals and health centers in the United States was increased by some four thousand. A bill for an enterprise of even greater scope, an International Medical Research Plan, has been devised by Senator Hill and has just passed in the Senate by an overwhelming majority; it is confidently expected to be passed by the House on the reconvening of Congress.

It is with great satisfaction that we present in these pages the text of Senator Hill's distinguished address, in order that those present at the Convocation and those who were unable to hear it may share the pleasure in this permanent form.

In a world made smaller every day by modern communication and transportation, we become increasingly aware of the plight of our fellow men in many parts of the world. At the turn of the century the great physician Sir William Osler wrote, "Humanity has but three great enemies: fever, famine and war; of these by far the greatest, by far the most terrible, is fever." His words still ring true. We are aware of the fact that an underprivileged two-thirds of the human race is constantly afflicted by the ravages of disease. Millions of these people suffer from the age-old scourges of malaria, tuberculosis and the various intestinal infections. In many countries a third of the babies die during the first year of life, and life expectancy falls thirty and forty years short of the Biblical threescore and ten.

At present we are engaged in an effort to stop the spread of Communist imperialism, which is competing with us for the uncommitted peoples of the world. Communism finds a ready breeding place in the ill health and poverty of the submerged peoples of the world. Communist forces of militant medicine are on the march. We have reports that Russia is sending about 2,000 doctors a year to do medical missionary work in these underdeveloped areas.

Yet we who once fired the shot "heard round the world" and gave a new dimension to personal liberty in the founding of a Republic that guaranteed life, liberty and the pursuit of happiness to all of its citizens, have been slow to meet this challenge.

In the closing days of the Eighty-Fifth Congress of the United States, I introduced a bill that would provide the mechanism though which this country would join with all the countries of the world in a united medical research offensive against the major killers and cripplers of mankind. The bill would create, as part of the National Institutes of Health, a National Institute of International Health and Medical Research. This Institute would be charged with the support of worthy medical research projects submitted by competent investigators from any part of the world. It would support the training of specialized research personnel here and abroad. It would encourage and support the rapid international exchange of research knowledge concerning disease and disability.

In introducing this bill on the Senate floor, I pointed out that the unfinished tasks facing medical research are truly staggering. For example, carcinoma, that most ancient enemy of man, is rising in its incidence in thirty-three countries of the world. What more priceless bounty could be given to the suffering peoples of the world than a cure for this universal disease?

In the session of Congress just ended, sixty-three Senators joined me in reintroducing the legislation. During the last week in February of this year hearings were held on this International Medical Research Act, and I think I may state that it received unprecedented and overwhelming support from doctors, scientists, voluntary health organizations and civic leaders.

Testifying on behalf of the American Medical Association, its President, Dr. Gunnar Gundersen, told our Senate Committee of "a growing recognition that medicine with its resources and influence fully mobilized can perhaps do more for world peace than the billions of dollars being poured into armaments." Mr. John T. Connor, the president of one of the largest pharmaceutical companies in America, told the committee that "the International Medical Research Act stirs the imagination with its opportunities for a new breakthrough in international relations as well as in medical research."

Dr. Ross T. McIntire, who serves so capably as Executive Director of the International College of Surgeons, strongly endorsed the bill in a very fine presentation before our Committee. After his testimony Dr. McIntire wrote me that "the

International College of Surgeons is so organized that the program that you are proposing in the International Medical Research Act would be a natural, in that we have outstanding men in foreign lands who are in teaching institutions and who are presently engaged in forms of research."

It should be a source of deep gratification to the College, which has pioneered in the creation of an international climate for the advancement of surgery and the allied medical arts, that the Senate of the United States passed the International Medical Research Act by an overwhelming bipartisan vote on May 20. A committee of the House of Representatives, under the chairmanship of my distinguished colleague from Alabama, Representative Kenneth Roberts, held voluminous hearings on the bill during July and August, and we look with confidence to its passage by the House of Representatives when Congress reconvenes in January.

In Chicago the College has founded the International Surgeons' Hall of Fame which does honor to those great men of all faiths and of all nations who have made immortal contributions to the art and science of surgery. On the day that the Hall of Fame was dedicated, Dr. Max Thorek, the father of the International College of Surgeons, pronounced these words, which truly epitomize the universality of all surgery:

> "We shall honor these men, but not so much as they will honor us. As Agesilaus truly remarked, 'It is not the places that grace men, but men the places.' We are but paying another installment of our age-long debt to those who cleared the way for us, a debt to which we can never write 'paid in full.'"

Let me say that the International Medical Research Act is not only a payment on our debt to the physicians and surgeons of all nations but an affirmation of the ideals that motivate the International College of Surgeons. It states our belief that disease is a universal threat to the family of man, and that we must unite our medical research efforts to wipe out this threat. It accepts the fact that no nation has a monopoly on medical research, and that our own self-interest dictates a maximum effort toward the rapid pooling of the fruits of such research. It accepts the fact that we must raise a common banner under which the doctors and scientists of all lands can march toward the goal of better health for all mankind.

Inspired by the devotion of the International College of Surgeons to the health of our people, by its generous works for humanity, its courage and its faith, and moved by its high ideals and purposes, we shall press forward to the ever-widening horizons of medical discovery and medical knowledge. In the confidence of knowledge, in the strength of integrity, in the tenderness of sympathy, in the fellowship of humility and in the love of God, we shall continue to wage together the never-ending battle for the health of our people, for the health of all peoples, and for peace on this earth.

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When you have made and recorded the unusual or original observation, or when you have accomplished a piece of research in laboratory or ward, do not be satisfied with a verbal communication at a medical society. Publish it.

—*Osler*

New Books

BOOKS RECEIVED

The following books have been received by the Editor; they will be reviewed critically as space and facilities permit. Omission of more extended review, however is not to be taken as criticism of the merit of the book.

The Surgeon's Tale: The Store of Modern Surgery. By Robert G. Richardson, New York: Charles Scribner's Sons, 1959. Pp. 278, with 45 illustrations.

History of American Medicine (MD International Symposia). Edited by Felix Marti-Ibañez. New York: MD Publications, 1959. Pp. 181.

Spinal Cord Compression. By I. M. Tarlov. Springfield, Ill.: Charles C Thomas, Publisher, 1957. Pp. 147, with 41 illustrations.

Le Diagnostic du Cancer d'Estomac a la Periode Utile ***(Diagnosis of Carcinoma of the Stomach at the Time Most Favorable for Treatment).*** By Rene A. Gutmann. Paris: G. Doin et Cie, 1956. Pp. 257.

Operative Surgery. Edited by Charles Rob and Rodney Smith. London: Butterworth & Co., Ltd.; Philadelphia, F. A. Davis Co., 1956. Vols. 1 and 2 of 8 (plus index). Profusely illustrated.

Pathology and Surgery of the Veins of the Lower Limbs. By Harold Dodd and Frank Cockett. Baltimore: The Williams & Wilkins Company, 1957. Pp. 462, illustrated.

Functional Bracing of the Upper Extremities. By Miles H. Anderson. Springfield, Ill.: Charles C Thomas, Publisher, 1958. Pp. 463. Illustrated.

The Clinical Management of Varicose Veins. By David Woolfolk Barrow. New York: Paul B. Hoeber, 1957. Pp. 167, with 70 illustrations.

Operative Surgery. In Eight Volumes. Edited by Charles Rob and Rodney Smith. Philadelphia: F. A. Davis Company, 1956-58. Pp. 2,779. Illustrated. *Reviewed in this issue.*

Handbuch der Thoraxchirurgie. I. Band, Allgemeiner Teil ***(Encyclopedia of Thoracic Surgery, Volume I, General Part).*** Edited by E. Derra. Berlin-Göttingen-Heidelberg: Springer Verlag, Publishers, 1958. Pp. 838, with 441 illustrations, some in color. *Reviewed in this issue.*

Men, Molds, and History. By Felix Marti-Ibañez. New York: MD Publications, Inc., 1958. Pp. 114. *Reviewed in this issue.*

Manuel de Traumatologie (Manual of Traumatology). By Georges Rieunau. Paris: Masson & Cie, 1958. Pp. 220, with 107 illustrations. *Reviewed in this issue.*

L'Oesophage (The Esophagus). By Guy Albot and F. Poilleux, with the collaboration of ten staff members of l'Hôtel-Dieu. Paris: Masson & Cie, 1958. Pp. 274, with 112 illustrations. *Reviewed in this issue.*

Principles of Peripheral Vascular Surgery. By S. Thomas Glasser. Philadelphia: F. A. Davis Company, 1959. Pp. 392, with 32 illustrations. *Reviewed in this issue.*

Emergency Surgery. By Hamilton Bailey. Bristol: John Wright & Sons, Ltd., 1959. Pp. 1,197, with 1,576 illustrations.

The seventh edition of Emergency Surgery is bigger and better than ever. This is quite a statement when one realizes that the six previous editions have been hallmarks for surgeons everywhere. It is refreshing to pick up a medical text and find it so informative and well written that it can be read as a novel. The author has attempted to avoid confusing and theoretical discussions which surely have no place for consideration when one is confronted with an urgent surgical condition that requires decision, knowledge and action. In this edition it has been noted that more space is allocated to direct and differential diagnosis. The author and the reviewer apparently see eye to eye in the aphorism, "the first and most important part of surgery is diagnosis." When a work is based upon personal experiences, the reader will find much practical material, readily usable. Chapter three deals with electrolyte and fluid balance. This is a most difficult subject to present lucidly and succinctly. I know of no other text which presents the material more clearly than does the ten pages devoted to it in this tome. At the end of each chapter one finds worthwhile references dealing with the subject at hand. This is most helpful particularly to those who wish to delve deeper into the theoretical aspects of the subject. The paper, as usual, is of excellent stock and the 1,576 illustrations embellish the text admirably. Mr. Bailey is to be complimented for placing in the hands of the profession this outstanding work.

PHILIP THOREK, M.D.

The Hand: Its Anatomy and Diseases. By John J. Byrne. Springfield, Ill.: Charles C Thomas, Publisher, 1959. Pp. 384, with 166 illustrations.

The author divides the contents of this volume into five parts, and these five parts are subdivided into twenty-one chapters.

Part 1 discusses the structure and development of the hand and is nicely illustrated, showing the anatomic and also the embryonic development of the hand.

Part 2 covers infections of the hand from the standpoint of the type of invading organism as well as the anatomic localization of these infections.

Part 3 covers trauma of the hand, by the logical process of starting with the skin and then dealing with underlying structures, such as the tendons, nerves, muscles, bones and joints. This, therefore, covers fractures and their treatment. There is an interesting chapter on special injuries of the hand.

Part 4 covers diseases other than those produced by infection. The author shows the developmental changes. Various diseases of unknown origin are discussed, and in this section he takes up tumors of the hand, congenital diseases of the hand, vascular diseases and unusual painful states.

Part 5 deals with scars and missing digits, as well as the problems associated with skin contractures; important tendon defects; nerve defects, and diseases of the bones and joints.

The book can be enjoyed by not only the general practitioner who is called upon from time to time for surgical treatment of the hand but by the specialist in this type of work.

H. E. TURNER, M.D.

Pictorial Handbook of Fracture Treatment. By Edward L. Compere, Sam W. Banks and Clinton L. Compere. New York: Paul B. Hoeber, Inc., 1958. 4th ed. Pp. 448. Illustrated.

This 448-page textbook has been rewritten in many parts, and many new illustrations have been added. The text has been divided into 33 chapters.

The outline of the work shows the marvelous familiarity of all three authors with the subject in hand.

This book should be in the library of every general practitioner, as it covers all major points in the treatment of fractures of every part of the body. The line drawings are excellent, clearly demonstrating to the reader the exact method by which any given fracture should be treated. The index is clear and concise.

H. E. TURNER, M.D.

Handbuch der Thoraxchirurgie. I. Band, Allgemeiner Teil (Encyclopedia of Thoracic Surgery, Volume I, General Part). Edited by E. Derra. Berlin-Göttingen-Heidelberg: Springer Verlag, Publishers, 1958. Pp. 838, with 441 illustrations, some in color.

The spectacular advancement of thoracic surgery during the past few decades has resulted in gradual development of subspecialties in this field. Today the efficient diagnostic and therapeutic approach to any surgical disorder within the thoracic cavity does not depend merely on the general medical knowledge, practical experience and manual dexterity of the thoracic surgeon. Close collaboration with experts in disciplines outside his surgical orbit has become a necessity. Successful thoracosurgical intervention remains wishful thinking without the teamwork of consultants for internal medicine, roentgenology, anesthesiology, physiology, anatomy and other such sciences.

New and improved methods of examination, diagnosis, and anesthesia, of resuscitation in critical intraoperative cardiac accidents, progress in shock, collapse and postoperative therapy, and the introduction of antibiotics have given a completely different perspective to the practice of thoracic surgery. Its horizon has widened with unexpected rapidity in all directions.

The editor of this three-volume encyclopedia has called upon 65 authorities in their respective fields to collaborate with him in assembling all the pertinent facts of their subjects on the basis of their own experience research. A gigantic work has resulted, the first volume of which, now published, covers the "general part" of the substance. In eleven chapters the following topics are discussed in every minute detail and from every possible angle: normal anatomy, normal and pathologic physiology of respiration and circulation and extracorporeal circulation as an aid to cardiac surgery; methods of general clinical and roentgen diagnostic examination; electrocardiography, angiocardiography and cardiac catheterization; anesthesia, artificial hypothermia, and general operative technic in thoracic surgery.

The chapter dealing with cardiac catheterization and angiocardiography, and the one on anesthesia, by three Swedish contributors, are presented in the English language, as is the chapter on extracorporeal circulation, by an American. The index is in German, with an English translation. The illustrations, many in color, are unusually clear and instructive.

This standard work will, no doubt, serve the thoracic surgeon and his team exceedingly well. It is also recommended to all those primarily concerned in any way with diseases of chest organs generally. The book has no highlights! It is a fountain of knowledge and inspiration and should have its place in every hospital library.

ERNEST G. ABRAHAM, M.D.†

Manuel de Traumatologie (Manual of Traumatology). By Georges Rieunau. Paris: Masson & Cie, 1958. Pp. 220, with 107 illustrations.

This handbook reveals what can be accomplished by reparative and reconstructive surgical treatment for correction of lesions of the extremities, shoulders, spinal column and pelvic girdle. Advancement in surgical technic, anesthesia and reanimation have made it feasible for the traumatic surgeon to correct many lesions formerly treated by conservative orthopedic measures. This didactic work is based on the author's twenty-five years of experience. He discusses his aims, the means now at his disposal and the results to be expected from reparative operations. He agrees with current classic technics but does not hesitate to express his preferences in handling certain complex fractures of the spinal column and the lower extremities.

Part 1 is devoted to trauma of the upper extremities and the scapulae. It includes anatomic and physiologic considerations of the shoulder and paralysis caused by traumatic elongation of the brachial plexus, as well as recent, late and recurrent dislocation of the shoulder. Surgical treatment, including various types of grafting, is described, as is immobilization with plaster casts. Fracture and trauma of the elbow and tendons of the forearm and hand are discussed.

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†Deceased.

Part 2 deals with fracture of the dorsolumbar, lumbosacral and cervical segments of the spinal column, usually resulting from violent injury occurring in industry, automobile or airplane accidents. Each presents individual anatomic, pathologic and therapeutic problems. A chapter is devoted to fractures of the pelvis. In the past these were relatively rare; during the past century, Malgaigne collected only 10 cases of such fractures treated at the Hôtel Dieu, Paris. The author points out that the prognosis formerly was bad in cases of severe involvement, but that present-day methods of combatting shock at the time of the original trauma (transfusion, oxygen, plasma and other measures of reanimation) save many lives. Separation of the symphysis pubis and protrusion of the acetabulum are also considered.

Part 3, on trauma of the lower extremities, is devoted to dislocation and fracture of the hip and the femoral neck. The etiologic anatomopathologic, symptomatic, therapeutic and prognostic aspects are clearly outlined, as is the matter of classification. In young persons, surgical correction of fracture of the neck of the femur is usually indicated, and the technic is described in detail. Fracture of the femur and patella (including the semilunar cartilage), lesions of the bones of the middle third of the leg, malleolus, astragalus and os calcis are discussed.

In this comprehensive work on the management of traumatic lesions the author points out the possibilities of reconstructive operative treatment with restoration of function. Many excellent schematic drawings accompany the text. In order to avoid confusion, photographs and roentgenograms have been deliberately omitted. The author has written this handbook for medical students, interns and residents in order to interest them in traumatology. His direct approach to the subject and his masterly solution of problems of indication and treatment and specific surgical technics, however, give this book interest to the general surgeon and the orthopedist as well.

CHARLES PIERRE MATHÉ, M.D.

Operative Surgery. In Eight Volumes. Edited by Charles Rob and Rodney Smith. Philadelphia: F. A. Davis Company, 1956-58. Pp. 2,779. Illustrated.

When the first volume of this immense encyclopedia of surgery appeared in 1956, the editors wrote, "By far the best way of learning how to perform an operation is to watch . . . an acknowledged master carry out the procedure of several occasions."

The eight volumes of this work come as near to *actual personal demonstration* of technics as would seem humanly possible in a textbook. Each of the contributors—there are more than a hundred and fifty, and each one a recognized expert in his specialty—has presented his operations in the way that he does them, with step-by-step diagrams. This method of presentation is so highly developed throughout the series that the text is supplementary to the illustrations, rather than the other way around.

The emphasis, in each instance, is upon the operation itself. Some advice upon diagnosis, preoperative and postoperative treatment, complications, etc., is given, but the work was intended to be a companion to *British Surgical Practice*, which demonstrates these considerations in detail.

The editors were assisted by a board of consultant and associate editors, consisting of J. Crawford Adams, R. J. V. Battle, Sir Stewart Duke-Elder, Maxwell Ellis, C. M. Gwillim, Wylie McKissock, and Robert Guy Pulvertaft. Subject matter and writers were chosen with careful evaluation of the surgeon's contribution to surgery. Thus the reader can assure himself in each instance, "This is the best way to do this particular operation."

Arrangement of material follows a regional pattern, anatomically speaking. Volume 1 deals with the surgical treatment of trauma and abdominal surgery (part 1); volume 2 completes the presentation on abdominal surgery; volume 3 deals with the rectum and anus and with the thorax; volume 4, with the head and neck, clearance of lymph nodes, vascular surgery and the endocrine glands; volume 5, with orthopedic surgery; volume 6, with hand amputations, plastic surgery, gynecology and obsterics; volume 7, with the breast, and genitourinary system, and volume 8, with neurosurgery, the eyes, the ears, the nose and the throat.

As each volume appeared, it was greeted with enthusiasm and high praise. Only the most minor criticisms were expressed. We feel that the series maintains the high standards set by the editors in the beginning, and that the set will prove a treasure trove to the specialist who sometimes has to operate in another field than his own; for the general surgeon who occasionally gets into the specialties, and for all practicing surgeons who want to know the basic procedures in all fields.

MAX THOREK, M.D.

L'Oesophage (The Esophagus). By Guy Albot and F. Poilleux, with the collaboration of ten staff members of l'Hôtel-Dieu. Paris: Masson & Cie, 1958. Pp. 274, with 112 illustrations.

The first book in this series, published in 1952, dealt with diseases of the bile ducts; the second, in 1953, with the stomach; the third, in 1954, with the liver and portal vein; the fourth, in 1955, with the small intestine, colon and rectum, and the fifth, in 1956, with the duodenum and pancreas. In the most recent (sixth) volume, 1957, leading French and foreign authorities relate their vast experience in the pathogenesis of lesions of the esophagus. The work deals with roentgenology, diagnosis, cinematography, esophagoscopy, radiotherapy and problems of surgical intervention.

The first chapter, on the technic of examination, includes a historical sketch and methods for carrying out esophagoscopic investigations. Described in detail are roentgen examination, exposure, contrast media, and radiographic and fluoroscopic methods. Great possibilities for radiocinematographic study are envisioned, and excellent films of pathologic conditions are presented.

Chapter 2 is concerned with the cause and the medical treatment of ulcerative esophagitis. The authors point out that progressive dysphagia in a man about 50 years of age suggests the presence of ulcer or carcinoma (in the greater majority of cases). The causes of congenital anomalies and their relation to gastroesophageal reflux, gastroduodenal ulcer, cholecystitis, etc., are discussed. Surgical treatment based on correcting the accompanying stenosis, including resection and minor procedures of reposition, with and without plastic repair of the mucosa, is described.

Chapter 3 deals with anomalies of the esophagus and with diaphragmatic hernia. There is a good description of the physiologic aspects of esophageal hiatus, its rôle in prevention of gastroesophageal reflux, movement of the diaphragm caused by respiration, etc. A detailed roentgen examination of esophageal hiatus is described, as are clinical aspects of hiatus hernia. Operative repair in 24 cases by Frileux and Mozzani was followed by recurrence in 3 instances. Hiatus hernia *per se* is not a disease; one only intervenes to relieve its complications—reflux, esophagitis, hemorrhage, compression phenomena, danger of strangulation, etc.

Chapter 4, on pharyngoesophageal and thoracic diverticuli of the esophagus, includes pathogenesis, clinical course, diagnosis, endoscopic study and surgical treatment. Roentgen diagnosis is accompanied by films outlining the esophagus and diverticulum. The importance of taking films in the anteroposterior, right anterior oblique, left anterior oblique and lateral positions is stressed. The authors state that radiocinematographic study aids in detecting minute lesions and permits the study of accompanying functional disturbances of deglutition. Surgical extirpation is discussed: by the left presternomastoid route for diverticula in the cervical portion of the esophagus and by the transpleural route for those in the thoracic portion. There are films of the injected esophagus before and after diverticulectomy.

Chapters 5 and 6 describe carcinoma of the lower, middle and upper portions of the esophagus. Of the 860 cases of carcinoma of the esophagus treated from 1948 to 1957, 475 occurred in the lower portion of the esophagus (395 in the lower portion, 82 in the esophagogastric region). Pathogenesis, mortality and survival rates following simple esophagectomy and that operation combined with partial gastrectomy are included. Patients with dysphagia should be subjected to meticulous roentgen and esophagoscopic study before carcinoma of the esophagus is ruled out.

Chapter 8 is devoted to the indications for, and the results of, surgical treatment of diaphragmatic eventration, including gastropexy, plication and a combination of the two. Roentgenograms depict points in differential diagnosis between eventration and diaghragmatic hernia.

Chapter 8 deals with the etiologic and pathogenic aspects of congenital, acquired and functional megaesophagus. The latter includes a discussion of toxic, endocrine, nervous and reflex types. Excellent photographs depict pathologic changes in the nerves that make up the plexus of Auerbach. The medical treatment of alchalasia consists principally in dilating the atrophic lower segment of the esophagus. Surgical treatment (myotomy) should be extended and deep, via the abdominal or the thoracic route (Heller's operation, which has given good results; it is followed by a mortality rate of less than 1 per cent. Unfortunately, this procedure is often carried out in a very late stage of the disease.)

Chapter 9 considers benign strictures and those due to caustic burns and inflammatory processes. Ingested chemicals usually consist of well-known corrosive drugs. In certain cases, stricture may be aided by repeated dilation; in others surgical intervention, usually in two stages, is required. This includes preliminary gastrostomy, gastrolysis through an abdominal incision, resection of the stenosed area and an epigastric laterolateral anastomosis via the thoracic approach. Benign stenosis resulting from burns, instrumental trauma, foreign bodies, extrinsic pressure (lymph glands, thyroid tumors, anomalies of the aorta), etc., is considered.

This volume, the sixth in a compilation of conferences held at l'Hôtel-Dieu, Paris, deals with diseases of the esophagus: ulcers, anomalies, diverticula, carcinoma, diaphragmatic eventration, megaesophagus and stenosis. The authors outline precise methods of diagnosis and treatment. They outline the great progress made in recent years in the surgical correction of esophageal lesions. The book is well documented and has excellent films and illustrations.

CHARLES PIERRE MATHE, M.D.

Principles of Peripheral Vascular Surgery. By S. Thomas Glasser. Philadelphia: F. A. Davis Company, 1959. Pp. 392, with 32 illustrations.

This unique book is divided into eighteen chapters. Peripheral vascular disease is an entity in itself, with specialists to substantiate it. Some medical and surgical phases of this condition, however, are sometimes theoretically inseparable. The advances in preventing intravascular clotting plus dry freeze grafts have opened up this subject to include cardiac and aortic surgical procedures from the arch to the bifurcation.

F. A. Davis have used an excellent grade of paper, and the printing of two columns on one page makes reading much more acceptable and less tiring.

The first chapter covers the anatomic and physiologic aspects of the arteries, and pertinent application of basic anatomic principles is applied to the varied locations. Collateral blood supply is discussed from a physiopathologic point of view. A classification of peripheral vascular disease is almost impossible to establish. The syndrome is divided into pathologic conditions of the arteries, veins and lymphatics. The differential diagnosis determines the therapy. This includes oscillometric studies, studies of temperature, reactive hyperemia tests, reflex vasodilatation and vasoconstriction, sweating tests, determination of venous filling time, histamine wheal test, saline wheal test, ergometric arteriographic and roentgen tests, use of radioactive materials, the fluorescein test and capillary microscopic study. The chapter covering arterial injury and repair discusses the use of grafts and their fate.

The chapter on atherosclerosis is the most interesting from a popular standpoint, and the author employs most of the time and space expounding arterectomy, thromboendarterectomy and the general treatment of atherosclerosis. The chapter on throboangiitis obliterans covers the subject from top to bottom, including a linear differential diagnosis between this condition and arteriosclerosis obliterans. Nerve blocks, amputation, functional arterial diseases and neurovascular lesions are thoroughly covered. Refrigeration anesthesia is well elaborated upon in the chapter on amputation. The section on veins is extremely well covered from the histologic, embryologic and anatomic points of view. Figure 26, showing the variations at the saphenofemoral juncture, is very good. The chapter on venous thrombosis, thrombophlebitis and phlebothrombosis is an outstanding contribution to medical literature; it is especially noteworthy because the periodical literature indicates a controversy at present. The author explains clearly every phase of this syndrome, including the use and control of anticoagulant therapy.

This book is highly recommended to interns, residents, general surgeons and vascular surgeons. The author is to be complimented on his clear, thorough and intensive manner of presenting the clinical phase of peripheral vascular surgery instead of taking the didactic tone.

JEROME J. MOSES, M.D.

Men, Molds, and History. By Felix Marti-Ibañez. New York: MD Publications, Inc., 1958. Pp. 114.

All of Dr. Marti-Ibañez' writing on the history of medicine is exciting. He presents the searchings of medical scientists as a continuing adventure and a part of the cultural evolution of mankind. His approach, therefore, is both scientific and philosophic, and his work has a broad appeal, reaching far beyond the medical world. He correlates medical history with the history of mankind.

The nine chapters of this text are gathered from the medical literature in which they first appeared, and some were first read at various symposiums on antibiotics. The papers are concerned with the historical perspectives of antibiotics, the philosophic impact of antibiotics on clinical medicine, antibiotics and the medicine of the future, etc. There is a fine tribute to Sir Alexander Fleming. The author considers antibiotics and the problem of medical communication, words and research, and the clinical case history.

This is a gem of a book, which everyone interested in social progress in the broadest sense should read.

M. T.

The Middle Ear. By Heinrich G. Kobrak. Chicago: The University of Chicago Press, 1959. Pp. 254, with 232 illustrations, 6 in color.

Dr. Kobrak's posthumous book proves again what a truly inspired scientist he was. His contributions to knowledge of the ear have been great, and he has bequeathed to the profession a collection and summarization of them in this marvelous book, which is entirely devoted to the middle ear.

The first part of the book contains chapters on anatomy, physiology, observations, photographic methods, tests of hearing and pathologic conditions of the middle ear. Here Kobrak points out that the conductive apparatus of the middle ear includes the perilymph of the inner ear, which conducts sound to the organ of Corti.

The second part of the book has chapters written by surgeons of international repute, on modern technics for surgical treatment of the middle ear. The need for this book is urgent, since the renaissance of otic surgery has made it imperative that every otologist inform himself about the function of the middle ear and the preservation or restoration of hearing.

Kobrak states: "Otology passed an important milestone when the introduction of antibiotics and sulfa drugs eliminated most antiphlogistic surgery . . . The actual therapeutic improvement of middle ear function is now possible . . . The careless destruction and removal of important structures of the middle ear in the name of safety has become as undesirable and obsolete as avoidable amputations are in surgery."

Kobrak personally wrote the first part of the book, which contains lucid, detailed descriptions of the structure of the ear, the auditory stimulus and middle ear function. In another chapter he describes his personal and highly successful technics for studying the middle ear by means of the stroboscopic motion picture camera and his observations of the stapedius reflex. He has interspersed relevant historical notes throughout, but despite the great care and detail spent on each facet of middle ear function, he has chosen only subject matter that has a practical value for the otologist.

Dr. Alva Wilska, a physiologist, presents a chapter on his studies of the movements of the ear drum. Another chapter contains revealing and enlightening information about hearing tests, in which J. F. Fournier, an audiologist, gives an understandable description of bone conduction tests.

In the part of the book concerned with treatment there is a description of the medical and surgical procedures that restore middle ear function. J. R. Lindsay, who wrote the foreword and completed Dr. Kobrak's unfinished work, elucidates on otosclerosis and the fenestration operation. Samuel Rosen describes stapes mobilization and oval window fenestration. Kobrak describes prosthetic aids in relation to chronic disease of the middle ear. Horst Wullstein and Fritz Zoellner tell of their monumental and original researches in tympanoplasty and plastic operations on the middle ear.

One of the essential values of this book is that the cardinal writings of a number of leading otologists are collected and condensed, so that the reader may study them without a tedious perusal of more involved periodicals and texts.

The only fault one can find with the book is that the quality of the photo-engraving is sometimes poor. Dr. Kobrak's colored photographs of the ear drum are not of the best quality, and some are mounted 90 to 180 degrees from the correct position.

The book must be considered a standard text for the library of the department of otolaryngology in every medical school, of every otologist and of all others interested in the middle ear.

H. C. V.

William Beaumont recognized, grasped, and improved the opportunity which fell in his path, with a zeal and an unselfishness not excelled in the annals of medical science. . . . His work remains a model of patient, persevering investigation, experiment, and research, and the highest praise we can give him is to say that he lived up to and fulfilled the ideals with which he set out and which he expressed when he said: "Truth, like beauty, when unadorned, is adorned the most, and, in prosecuting these experiments and inquiries, I believe I have been guided by its light."

—*Osler*

Abstracts from Current Literature

Duodenal and Gastric Ulcer in the Same Patient. Aagaard, P., Andreassen, M., and Kurz, L., Lancet 1:1111, 1959.

A review of 313 cases of gastric ulcer, revealed that gastric ulceration was associated with duodenal ulceration in 120. These were divided into three groups.

In 94 instances the duodenal ulcer was followed by gastric ulceration. In 8, the patients had both duodenal and gastric ulcers. In 18 the gastric ulceration preceded the duodenal ulcer.

The authors were unable to conclude whether most gastric ulcers are preceded by a duodenal ulcer or whether there are two types of gastric ulcer, one preceded by duodenal ulceration and one a primary lesion.

A gastric ulcer following a duodenal ulcer may be explained in two different ways:

1. The disease may begin as an active ulcer with hypersecretion of acid, which is gradually superseded by normal or diminished secretion.
2. The disease may begin with a duodenal ulcer, which results in organic or spastic pyloric stenosis and the development of an ulcer proximal to the stenotic area.

JAMES H. ERWIN, M.D.

Retrosternal Artificial Esophagus from Jejunum and Colon. Petrov, B. A., Surgery 45:890, 1959.

The author performed 78 retrosternal esophagoplasties on patients with benign strictures due to the ingestion of caustics. A jejunal loop was used in 55 instances, and the right or the left half of the colon was used as an artificial esophagus in 23.

From this experience the author concludes that if the blood vessels of the mesentery of the jejunum are favorably placed, and when the risk of necrosis is lowered, the use of a jejunal loop for the retrosternal operation is most satisfactory from the functional point of view. The left half of the colon is preferable to the right, because it functions perfectly; owing to its shortness, however, its mobilization is not always possible. The functional results after use of the right half of the colon are not satisfactory, owing to the obstruction produced by the ileocecal valve.

S. ATTAR, M.D.

The Use of Intravenous Pituitrin in Treatment of Bleeding Esophageal Varices. Schwartz, S. I., Bales, H. W., Emerson, G. L., and Mahoney, E. B., Surgery 45:72, 1959.

Several investigators have reported a fall in portal pressure with the use of intravenous pitressin. The extract of the pituitary gland will produce diffuse vasoconstriction of the arterioles. The authors used intravenous surgical pituitrin in the cases of 11 patients with acutely bleeding esophageal varices. Twenty units of surgical pituitrin in 200 cc. of 5 per cent dextrose in distilled water was administered at half-hour intervals. This drug is contraindicated in the presence of angina pectoris and coronary insufficiency. Its use should be considered in the control of acutely bleeding esophageal varices.

ERNEST G. DEBAKEY, M.D.

Postphlebitic Syndrome: Treatment by Medical Transplanting of the Internal Saphenous. Palma, E. C., and Esperon, R., Angiology 11:87, 1959.

The authors state that the postphlebitic syndrome is frequently observed in Uruguay, as it is in the rest of the world, and present data to support its incidence in that area.

In their opinion, although many operative procedures such as lumbar sympathectomy, neurectomy of the saphenous (internal) vein, or resection of varicose veins have offered great early promise, the end results after prolonged observation of the patients have not been good.

They cite other investigators who have approached this problem in a manner similar to theirs and then give a brief summary of the 3 cases in which they have operated, using the recommended procedure. The operation itself is essentially a bypass operation for shunting blood up the opposite side when the iliac vein of one side or the other is involved. The saphenous is freed and divided at one point. The freed length of saphenous vein is then passed through a subcutaneous tunnel to the other side, and the free end is anastomosed to the superficial femoral vein. By this procedure they have made a vascular bridge for the return of venous blood from the femoral vein in the diseased areas to the normal femoral vein by a subcutaneous suprapubic tunnel.

The authors are convinced that this is a rational approach to the problem in those cases in which the postphlebitic syndrome is due to segmental occlusion of an iliac vein.

LOUIS M. BARBER, M.D.

Culposcopy—an Aid in the Detection of Early Cancer and Precancerous Conditions of the Cervix. Salzer, R. B., J. Obst. & Gynec. 13:451, 1959.

The author emphasizes the importance, for complete cure, of early detection of carcinoma of the cervix. He emphasizes use of the colposcope which is merely a microscopic instrument for visualization of the cervical tissue under high magnification. He reports 246 colposcopic-cytologic examinations of the cervix, with 21 cases (8.5 per cent) in which biopsy was indicated by colposcopic data.

Premalignant or malignant disease was observed in 4 patients. Of these, cytologic studies gave negative results in 2 and doubtful results in 1; in 1 case, inadequate material was submitted. This shows that there is good reason to use additional methods such as colposcopic study, for early diagnosis of carcinoma of the cervix.

J. A. ZIEMAN, M.D.

Carcinoma Corporis Uteri. Kneale, B., Australian and New Zealand J. Surg. 28:161, 1959.

The endometrium is the third most common site for malignant tumor of the female genital tract.

Operation in "inoperable" cases often palliates suffering to a pronounced extent and prolongs survival.

Irradiation alone should be reserved for the exceptionally ill or enfeebled patient.

Irradiation and surgical intervention are warranted on the basis of results in all other cases. In a very few, technical difficulties prevent treatment by irradiation, or subsequent surgical investigation may prove a tumor inoperable.

EDMUND LISSACK, M.D.

Full Thickness Bladder Flap for Reconstruction of Contracted Vesical Neck. Hudson, P. B., and Scardino, P. L., Surg., Gynec. & Obst. 107:795-798, 1958.

Contracture of the vesical neck following operations on the prostate and the neck of the bladder, especially transurethral resection, is common.

In the authors' opinion this contracture can be attributed to scarring at a depth beyond the area resected with the electrotome. The recurrence will take place as soon as enough time has elapsed for lineal contracture of the new scar.

The authors have devised an operation in which fresh tissue, which will not undergo cicatricial change, is used. The operation utilizes a full thickness flap of anterior bladder wall to replace the dorsal portion of the contracted bladder neck that has been excised.

The authors have used this procedure on a contracture following (1) prostatic resection, (2) chronic inflammation, (3) congenital contracture of vesical neck in a 9-year-old boy, and (4) rigidity of the vesical neck secondary to operations on the female pelvis.

SHEPARD JEROME, M.D.

Polyps of the Colon and Rectum. Rider, J. A., Karsner, J. B., Moeller, H. C., and Palmer, W. L., J.A.M.A. 170:633, 1959.

The authors report 9,669 proctoscopic examinations, in a six-year period, with detection of polyps in 537 patients. Follow-up studies of the "positive" patients revealed formation of new polyps in 41 per cent four to nine years later, with a greater increase in incidence among those who originally had multiple polyps. The incidence of carcinoma of the colon was twice as high for patients who had multiple polyps as for those who had not.

Local removal appeared to be adequate for benign polyps, as well as for adenocarcinoma within reach of the proctosigmoidoscope.

Patients with polyps should be checked yearly for at least five annual "negative" studies.

J. A. ZIEMAN, M.D.

The Late Development of Gastric Cancer After Gastroenterostomy and Gastrectomy For Peptic Ulcer and Benign Pyloric Stenosis. Pack, G. T., and Banner, R. L., Surgery 44:1024, 1958.

The late development of gastric carcinoma, after gastroenterostomy and gastrectomy, from peptic ulcers and pyloric stenosis has been well documented. The authors report 19 cases in which an average period of thirteen years elapsed between operation and the subsequent known onset of gastric carcinoma. Sixteen patients had duodenal ulcers; 2 had benign gastric ulcers, and 1 had a reticulum cell sarcoma on the distal end of the stomach. Gastroenterostomies were performed on 15 and subtotal gastrectomies on 4. The lesion was located at the gastrojejunal stoma in 13 patients, in the cardia in 4 patients, in the prepyloric area in 1 and widely distributed in 1. The bathing of the gastric mucosa by alkaline bile and pancreatic juice may be an irritating factor. The lesion is usually polypoid or mixed ulcerative and polypoid. Seven of the 19 patients underwent gastrectomy; of these, 3 are living and well.

ERNEST G. DEBAKEY, M.D.

Use of Intact Omentum for Closure of Full Thickness Esophageal Defects. Moore, T. C., and Goldstein, J., Surgery 45:899, 1959.

This study was carried out to estimate the suitability of intact omentum for the closure of relatively large full thickness defects of the lower portion of the esophagus. The omentum was brought into the left side of the chest through a hole in the diaphragm and was secured to the margins of the defect with interrupted sutures of silk.

Thirty-nine dogs were used in this study, with satisfactory results in 32. Healing generally appeared complete between two and three months after closure of the defect. The authors conclude that intact viable omentum brought on a pedicle through the diaphragm may be used for closure of esophageal defects and support of esophageal anastomoses.

S. ATTAR, M.D.

On the Pathogenesis of Cancer. Smithers, D. W., Lancet 1:589, 1959.

In this author's opinion the possible isolation and injury of tissue is a physiologic initiator of new growth. If this view is correct, the causes of tissue malformation must be sought in the dynamic expression of the interaction between cells and their environment, expressed in terms of disturbance in normal processes.

It would seem that a return to normal development and repair will be necessary to identify the mechanisms that become deranged in the presence of neoplasia. Starting with simple organisms which exhibit a number of controlled deviations from their paths of individual development, such as vegetative reproduction and regeneration, it is apparent at once that these processes have much in common with neoplasia.

So much remains to be learned about malignant disease that the question of its origin assumes an importance impossible to overestimate. Any suggestion within the bounds of reason should be given due consideration. The opinion here presented is interesting and provocative of thought.

EDMUND LISSACK, M.D.

Rupture of the Uterus. Golden, M. L., and Betson, J. R., J. Obst. & Gynec. 13:506, 1959.

An eighteen-year review from the Independent Obstetrical and Gynecological Service of the Charity Hospital of New Orleans is presented. Among the 36,200 deliveries that occurred in the eighteen years, there were 23 cases of rupture of the uterus. This is an incidence of 1:1,570, with a 9 per cent maternal and a 41 per cent infant mortality rate. Previous cesarean section, previous infection, previous intrauterine manipulation and injudiciously used Pitocin all contributed to the rupture. In a multigravida, of less than eight hours' duration, particularly in association with one or more of the aforementioned factors, often leads to rupture of the uterus.

EDMUND LISSACK, M.D.

Epidemiology of Carcinoma of the Breast. Schneiderman, M. A., M. Annals 27:275, 1958.

Three hypotheses that have come under some discussion in the literature are examined:

1. Carcinoma of the breast is largely a disease of hormonal origin. (A corollary, which is not considered here, is that is should, therefore, be largely controllable by hormonal means.)
2. Early diagnosis is of minor consequence only, because the disease is essentially not curable by any means at present available.
3. Irradiation in the treatment of mammary carcinoma is probably harmful.

In an area in which there is so much controversy, it should be clear that some surgeons, at least, have not yet convinced their colleagues of the virtue of their views. Of course, the horrible possibility exists that one may be wrong and one's colleagues right, and that their unreasonable obduracy has a valid basis; in such circumstances both sides should be willing to submit their ideas to test. They should agree to conduct an experiment of which both approve, in the hope that these may be settled.

WILLIAM E. NORTH, M.D.

Stress Incontinence of Urine in the Female and Sling Operation. Hiilesmaa, V., Ann. Chirurg. et Gynaec. Fenn. 46:384, 1957.

A sling operation was performed in 73 cases at the Helsinki University Women's Clinics from 1951 to 1956. Recurrences were noted in 19 of the cases and symptoms of uterine prolapse in 28. The cases were classified according to the degree of severity: Grade 1 (2 cases, no recurrences or prolapse), involuntary urinary leakage on sudden rise of intra-abdominal pressure, e.g., coughing; Grade 2 (42 cases, 9 recurrences, 14 uterine prolapses), leakage without major rise of pressure, e.g., walking; Grade 3 (29 cases, 10 recurrences, 14 prolapses), severe incontinence even during rest.

The principal cause of stress incontinence is obstetric trauma, which may occur even during a normal delivery, owing to displacement of the urethra and the bladder neck. Until recently surgical treatment has aimed primarily at elevation of these structures; additionally, attempts have been made to improve sphincteric function by utilizing, for instance, the muscles of the pelvic floor. The surgical procedure has often included narrowing of the urethral lumen. Nearly 100 different operations, with a cure rate ranging from 0 to 94 per cent, have been reported in the literature. This indicates that the cause of stress incontinence has not been definitely clarified. Doubts have been expressed as to whether a sphincter or sphincters can be spoken of in connection with the control of micturition. The muscle fibers in the urethral wall divide into thin cords on its dorsal side and do not encircle the urethra as presupposed by the sphincter concept. The actual function of these muscle fibers would thus consist in removal of the urine remaining in the urethra after micturition. According to more recent views, bladder control and micturition are based on muscle action at the urethrovesical juncture, and thorough radiologic studies, especially lateral cystourethrographic studies of women, have added to knowledge of the mechanism of bladder control. The phases of micturition from the point of view of stress incontinance are described.

Roentgen evidence suggests that a mere downward displacement of the urethra and the bladder neck is not of decisive importance. Thus, a patient may have severe prolapse of the uterus without incontinence if only the urethrovesical angle has been preserved. Conversely, incontinence has been observed immediately after operations for prolapse, owing to a more or less obliterated angle.

So-called sling operations are technically more difficult than the numerous operations usually performed by the vaginal route only, and urethral and vesical lesions and complications are apt to occur more frequently. A flap of fascia, freed from the aponeurosis of the abdominal wall muscles, is utilized to form a sling that elevates the urethral base and bladder neck in a hooklike manner. It can be assumed, however, that the main importance of the sling consists in the prevention of excessive descent of the urethrovesical juncture rather than in its elevation.

The combined abdominovaginal method was introduced by Stoeckel. A number of modifications have been described. For sling operations suitable cases must be selected. The patient's general condition must be good, and at least six months must have passed since the last delivery or a previous operation for incontinence.

Of the author's series of 73 cases, lateral urethrocystographic studies were done preoperatively in 17. In 14 the posterior urethrovesical angle was pathologically widened. Operative procedures in connection with delivery were exceptionally frequent (3 forceps and 9 breech deliveries). Incontinence began immediately post partum in one-third of the cases. The method of operation used was abdominovaginal in 64 cases and abdominal in 9. The abdominovaginal method appears preferable, having the lower incidence of complications. Follow-up data in 69 cases indicated cure in 46 and improvement in 20. In 6 (9 per cent) the patients remained unchanged despite the operation.

ERNEST G. ABRAHAM, M.D.†

Postoperative Irradiation of 86 Cases of Carcinoma of the Cervix. Liegner, L. M., Olson, M., and Nickson, J. J., Surg., Gynec. & Obst. 108:318, 1959.

The accepted opinion that carcinoma too deeply seated or too widespread for removal at operation is rarely controlled by subsequent radiotherapy is not accepted by the authors. They report occasional control of massive metastases, concluding that, at times, radiotherapy can be effective.

In this article an attempt is made to determine whether or not postoperative irradiation is of value.

Eighty-six cases of cervical carcinoma treated by operation and postoperative roentgen therapy were studied.

Twenty-nine (34 per cent) of the patients, irrespective of their category as to roentgen therapy, survived more than eighteen months and obtained worth-while palliation from irradiation. In the remaining patients the extent of the disease in the pelvis or the presence of para-aortic nodal metastases projected radiation therapy into the unenviable position of a measure for last resort.

FREDERICK B. JONES, M.D.

Observations on the Pathogenesis of Gastric Ulcer. Marks, I. N., and Shay, H., Lancet, 1:1107, 1959.

The authors studied a series of gastric ulcers against the background of the situation of the ulcer in the stomach, the histologic appearance of the gastric mucosa and the associated secretory patterns.

Certain differences in gastric and duodenal ulcers are emphasized. In patients with duodenal ulcer, the gastric secretion is higher, the acid-bearing area of the stomach larger, the gastric mucosa thicker and the parietal-cell mass greater than in normal persons. Gastric ulcer is usually associated with normal or subnormal secretion and atrophic mucosal changes.

Duodenal ulceration may occur either in normal mucosa exposed to abnormally high acid-pepsin secretion or in mucosa abnormally susceptible to injury even by diminished acid-pepsin secretion. Long-standing hypersecretion may lead to chronic pyloric gastritis, with diminishing mucosal resistance and formation of a gastric ulcer. The ulcer may initiate spreading atrophic gastritis with decrease of the secretory activity. This sequence suggests a similarity between gastric and duodenal ulcerations. The area of the pyloric gland is the most common site of gastric ulcer; here, resistance is lower and trauma greater.

JAMES H. ERWIN, M.D.

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†Deceased.

Statistical Review of Five-Year Survivals After Surgery For Carcinoma of the Esophagus and Cardiac Portion of the Stomach. Nakayama, K., Surgery 45:883, 1959.

Nine hundred and thirty-three cases of carcinoma of the esophagus and cardiac portion of the stomach, exclusive of carcinoma of the cervical segment of the esophagus, were studied. The operative mortality rate was 5.8 per cent (56 cases), which is much lower than that reported by others (14.1 to 50.4 per cent), the main reason for the lower surgical mortality rate being the use of antethoracic anastomosis as opposed to the intrathoracic anastomosis used by others. The five-year survival rate after successful operation in 286 cases was 12.2 per cent (35 cases). Excluding carcinoma of the cardiac portion of the stomach, 87 carcinomas of the esophagus were operated upon, with a five-year survival rate of 18.4 per cent (16 cases). Ten of the 16 were carcinomas of the upper or middle portion of the esophagus, and in all of them antethoracic esophagogastrostomy was performed. The five-year survival rate in these 10 cases was 16.4 per cent, which was relatively better than the 6 per cent obtained by Sweet (1956).

The author concludes that antethoracic esophagogastroanastomosis yields a lower operative mortality rate and better long term results than does intrathoracic anastomosis.

S. ATTAR, M.D.

Hemisulfur Mustard in the Palliation of Patients with Metastatic Ovarian Carcinoma. Green, T. H., Jr., J. Obst. & Gynec. 13:383, 1959.

The author describes the use of hemisulfur mustard, a derivative of mustard gas with reduced toxicity, in the palliative treatment of 36 patients with metastatic ovarian carcinoma, all of whom had undergone previous irradiation and/or surgical treatment.

The technic of administration, which may be either intravenous or intraperitoneal, is described. Seventy per cent of the patients obtained some beneficial effect as to comfort, a feeling of well-being and the ability to return to their normal activities for some time. The best results were elicited in the suppression of ascites, which was complete in 62 per cent, with a significant decrease in 15 per cent. The longest period of survival was thirty-three months.

The author concludes that hemisulfur mustard is one of the most effective palliative drugs available for patients with metastatic ovarian carcinoma with ascites.

J. A. ZIEMAN, M.D.

The Surgical Approach to Ulcerative Colitis. Ravitch, M. M., Wisconsin M. J. 58:147, 1959.

This author briefly reviews the history of the surgical approach to ulcerative colitis, mentioning sigmoid colostomy, ileostomy and finally one-stage ileostomy with complete colectomy and abdominal-perineal resection.

Indications for pancolectomy in cases of ulcerative colitis are as follows:

1. Intractable colonic disease with debility, anemia, arthritis or incapacitating diarrhea.
2. Life-threatening, fulminating attacks with high fever, tachycardia, edema, hypoproteinemia, free perforation or threatened perforation.
3. Massive hemorrhage.
4. Long-continued disease with severe radiologic deformity, even in patients symptomatically comfortable.

The remainder of the article describes in detail the preoperative and postoperative care of the patient.

JAMES H. ERWIN, M.D.

A New Method for the Reconstruction of the Urinary Tract: Bladder Flap Tube. Tsuji, I., Kuroda, K., and Ishida. H.. J. Urol., 81:282-286, 1959.

The authors describe their method of forming a bladder flap tube from parallel incisions made through the bladder. The bladder is closed under this flap and replaced in its normal position. The authors operated on 50 dogs in this fashion and observed by histologic study that after five weeks the tube formed by the flap was completely surrounded by

IMPORTANT ANNOUNCEMENT

Contributors of scientific articles for publication in The Journal of the International College of Surgeons from Europe, the Near East and the Middle East should send their articles to:

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A special committee has been appointed to evaluate the papers submitted for publication. The Journal publishes summaries in English, French, German, Spanish, Italian and Portuguese. Summaries of articles should be included in as many of these languages as possible.

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Un comité a été nommé pour l'examen des articles à paraître. Les auteurs sont priés de joindre à leur travail de brefs résumés en français, anglais, allemand, espagnol, italien et portugais si possible.

The following pages comprise

Section II

the BULLETIN

of the

Journal

of the

International College of Surgeons

Schedule of Meetings

1960

Twelfth Biennial International Congress

INTERNATIONAL COLLEGE OF SURGEONS

Under the Auspices of
His Excellency

the President of the Republic of Italy

CONGRESS PRESIDENT
PROF. DR. PIETRO VALDONI

May 15-18

PLACE OF MEETINGS
Palazzo dei Ricevimenti e dei Congressi
(Palace of Receptions and Congresses)

Rome, Italy

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BULLETIN

Embodying Activities of the World Federation of General Surgeons and Surgical Specialists, Section News and Comments

Editor-in-Chief—MAX THOREK, M.D.
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Prof. Dr. Giuseppe Bendandi
Clinica Chirurgica • Policlinico Umberto 1° • Rome, Italy

The Journal of the International College of Surgeons

Vol. 32, No. 4 SECTION II October, 1959

BULLETIN

Embodying Activities of the World Federation of General Surgeons and Surgical Specialists, Section News and Comments

Editor-in-Chief—MAX THOREK, M.D.
Associate Editor—PHILIP THOREK, M.D.
Consulting Editor—MORRIS FISHBEIN, M.D.
Assistant Editors—DOROTHY LANGLEY AND HELEN WEISS

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Schedule of Meetings
1960

Twelfth Biennial International Congress

INTERNATIONAL COLLEGE OF SURGEONS

Under the Auspices of
His Excellency

the President of the Republic of It

CONGRESS PRESIDENT
PROF. DR. PIETRO VALDONI

May 15-18

PLACE OF MEETINGS
Palazzo dei Ricevimenti e dei Congressi
(Palace of Receptions and Congresses)

Rome, Italy

SCIENTIFIC PAPERS
Surgeons living in the United States or South America
who wish to present papers, please write:

Dr. Max Thorek
850 W. Irving Park Road • Chicago 13,

Those living in Canada, write:

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1666 Broadway W.
Vancouver, B. C.

Dr. E. N. C. McAmmo
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Schedule of Meetings

INTERNATIONAL COLLEGE OF SURGEONS

1959

October 30 **Hong Kong, China**	**China—Hong Kong Section** **International College of Surgeons**
November 2 **Tokyo, Japan**	**Japan Section** **International College of Surgeons**
November 2 **Bangkok, Thailand**	**Thailand Section** **International College of Surgeons**
November 14-15 **Bruges, Belgium**	**Belgian Section** **International College of Surgeons**
November 22-24 **Las Vegas, Nevada**	**Western Regional Meeting** **U. S. Section, International College of Surgeons**
December **Taipei, Taiwan (Formosa)**	**China—Formosa Section** **International College of Surgeons**
December **Jaipur (Rajasthan) India**	**India Section** **International College of Surgeons**

Roads to Rome Tours

Combine

Attendance at the Congress With
One of Four
International College of Surgeons European Tours

I: A 21-day tour—New York, Rome and the Congress, Munich, Lucerne, Paris, Amsterdam, London and return to New York.

II: A 35-day tour—New York, Paris, Nice, Rome and the Congress, Naples, Sorrento, Capri, Florence, Venice, Lucerne, Heidelberg, Rhine cruise, Amsterdam, London and return to New York.

III: A 37-day tour—New York, Lisbon, Madrid, French Riviera, Rome and the Congress, Florence, Venice, Innsbruck, Salzburg, Munich, Heidelberg, Frankfurt, Rhine cruise, Paris, London and return to New York.

IV: A 40-day tour: New York, Rome and the Congress, Vienna, Moscow, Leningrad, Helsinki, Stockholm, Oslo, Copenhagen, Glasgow, Dublin and return to New York.

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1960

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FOURTH LECTURE SERIES

1959-1960

School of the History of Surgery and Related Sciences

International Surgeons' Hall of Fame

1524 Lake Shore Drive, Chicago

LECTURES BEGIN AT 8:00 P.M.

OCTOBER 20, 1959	*"The History of Allergy"—Dr. Leon Unger, Associate Professor of Internal Medicine and Allergic Diseases, Northwestern University Medical School, Chicago*
NOVEMBER 24, 1959	*"The History of Gastroenterology"—Dr. Walter Alvarez, Professor Emeritus, University of Minnesota; Consultant in Medicine, Mayo Clinic; Widely Syndicated Columnist*
JANUARY 12, 1960	*"The Physician as a Book Collector—Notes on Famous Libraries"—Mr. Herman Henkle, Librarian of the John Crerar Library; Member of the Society of Medical History of Chicago*
FEBRUARY 2, 1960	*"Highlights of Orthopedic Surgery Through the Ages"—Dr. Philip Lewin, Professor Emeritus, Northwestern University; Consultant in Bone and Joint Surgery, Cook County Hospital*
FEBRUARY 23, 1960	*"The Bookplates of Physicians"—Dr. Morris Fishbein, Medical Editor of the Encyclopaedia Britannica; President of the American Medical Writers' Association*
MARCH 15, 1960	*"The History of Blood Transfusion"—Dr. Richard Lewisohn, Consultant at Sinai Hospital, New York City*
APRIL 5, 1960	*"The History of Pulmonary Tuberculosis"—Dr. Jerome Head, Associate Professor of Surgery, Northwestern University Medical School; Former President of Suburban Cook County Tuberculosis Sanitarium Board*
APRIL 26, 1960	*"Nicholas Senn and the Medical Center of Chicago"—Dr. Manuel Lichtenstein, Chairman, Department of Surgery, Cook County Hospital; Associate Professor, Northwestern University Medical School*
MAY 10, 1960	*"Architects of Chicago Medicine"—Dr. Frederick Stenn, Author of Medical History Literature; Member of American Association of Medical History; Assistant Professor of Medicine, Northwestern University Medical School*

THE UNITED STATES SECTION

International College of Surgeons

announces its

ANNUAL POSTGRADUATE COURSE

November 2, 1959

The United States Section of the International College of Surgeons will again offer its Annual Postgraduate Course, in cooperation with the Cook County Graduate School of Medicine. It will be a two-week intensive review course in General Surgery presented at the Graduate School, and in the wards and operating rooms of Cook County Hospital.

The program will be offered under the supervision of the Hospital's Surgical Staff. It will include illustrated lectures, motion pictures, anatomy demonstrations, operative clinics and practice surgery by the participants on anesthetized dogs. Consideration will be given not only to surgical technic, surgical complications and management of the surgical patient, but also to an intensive review of the basic sciences in relation to clinical surgery. In addition to twenty hours of surgical anatomy on the cadaver, the program will include lectures and demonstrations on the following:

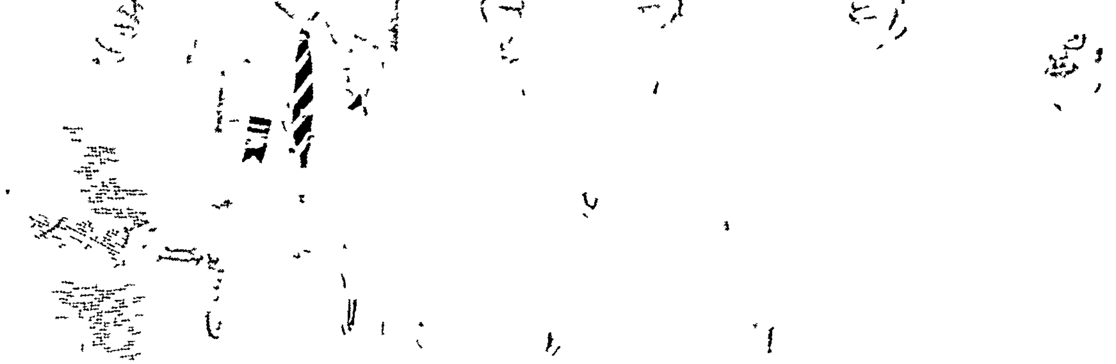
Gastric Surgery
Surgical Physiology
Use of Blood and Derivatives
Pediatric Surgery
Surgery of Large Bowel
Surgery of Small Bowel
Intestinal Obstruction
Anorectal Surgery
Surgery of Pancreas and Spleen
Vascular Surgery
Breast Surgery
Gallbladder Surgery
Thoracic Emergencies
Hand Injuries and Infections
Gynecologic Surgery
Surgery of Hernia
Abdominal Injuries
Surgery of Esophagus
Thyroid Surgery
Radioisotopes in Surgery

Members of the International College of Surgeons are urged to take advantage of this exceptional opportunity to continue their training in Surgery. Associate Members and Junior Members who attend will receive appropriate consideration and credit when applying for advancement.

Requests for application or further information may be addressed to either of the following:

International College of Surgeons
1516 Lake Shore Drive
Chicago 10, Illinois

Cook County Graduate School of Medicine
707 South Wood Street
Chicago 12, Illinois



Dr. Harry E. Bacon, F.A.C.S., F.I.C.S. (Hon.), Philadelphia, president-elect, United States Section; Dr. Arnold S. Jackson, F.A.C.S., F.I.C.S., Madison, Wisconsin, past-president, United States Section; Prof. Dr. Raymond Darget, F.I.C.S., Bordeaux, secretary, French Section; Prof. Dr. Jean P. Creyssel, F.I.C.S., Lyon, president, French Section; Dr. Edward L. Compere, F.A.C.S., F.I.C.S. (Hon.), Chicago, president, United States Section, and Prof. Dr. J. André Thomas, Paris, France

Participants in Scientific Sessions

Twenty-Fourth Annual Congress, North American Federation International College of Surgeons

September 13-17 Chicago, Illinois

Maj. Gen. Melvin J. Maas
U.S. Marine Corps (Ret.)

Prof. Dr. Alfonso de la Peña
President, Spanish Section

Twenty-Fourth Annual Congress
North American Federation
International College of Surgeons

Comprising

THE UNITED STATES OF AMERICA, CANADA, THE UNITED STATES OF MEXICO, CUBA, HAITI. GUATEMALA, HONDURAS, EL SALVADOR, NICARAGUA, COSTA RICA AND PANAMA

The Twenty-Fourth Annual Congress of the North American Federation of the International College of Surgeons, held at the Palmer House in Chicago, September 13-17, 1959, has come to a triumphant conclusion. Long anticipated and carefully planned, it has fulfilled every expectation and rewarded the arduous and painstaking effort that was expended upon it. The organizing and program committees, their chairmen, members and secretaries, may have been weary, but awareness of important work well done and the plaudits of appreciation from their fellow surgeons must have been a source of great satisfaction.

The gratitude of the College goes to Dr. Peter Rosi, chairman of the program committee, and to all of the many people who cooperated to make the Congress a significant scientific event and a milestone in North American surgical history.

While the Twenty-Fourth Annual Congress of the North American Federation of the International College of Surgeons was dedicated, retrospectively, to the memory of Nicholas Senn, John B. Murphy and Christian Fenger, three great surgical pioneers, its proceedings dealt forthright with surgical problems of the day and took a great leap forward to anticipate the problems of the future.

Never before have surgeons, physicians and scientists had to concern themselves with the problem of survival under other than terrestrial conditions. Special consideration always had to be paid to catastrophies such as famine, epidemics, storms, conflagrations, earthquakes and the man-made horror of war. But now, for the first time, surgeons of the North American Federation of the International College of

Surgeons have come face to face with such hitherto inconceivable realities as extra-atmospheric existence, neutron toxicity and the need as well as the possibility of protection against acute radiation death.

As could be expected, the essayists who dealt with these and similarly look-of-tomorrow subjects in the main were scientists and medical men associated with the military forces and the great federal government research laboratories. The Congress dealt with many weighty surgical problems, but none had so great an impact on the thinking of the congressists as did these dramatic disclosures of the facts, theories and plans for action with which the most advanced scientists and medical men in the national service are now concerned. To hear these men, to see their slides and motion pictures, was a sobering and yet somehow exulting experience. The vast obscure complexity of the problems seemed overwhelming. The calm matter-of-fact attitude of the essayists, on the other hand, bred wonder at the capacity of the human mind and inspired confidence that the race of man might indeed have a future. The College is grateful to these men and to the services and institutions which enabled them to address the Congress.

But while the Congress was spellbound by the far reaches of science, at other sessions the surgeons and surgical scientists painstakingly discussed ways and means of alleviating pain and suffering, prolonging life and lending dignity and happiness to individuals who in their totality included such a vast number of persons as to account, at various times, for nearly all of us.

The Congress debated technics, evaluated innovations and pondered on practical surgical procedures.

It was greatly impressed, for instance, by **Prof. J. Andre Thomas'** discussion of progress in artificial cardio-pulmonary circulation and his demonstration of the use of the artificial pulmonary membrane he invented. Here, within the sphere of his own activity, the surgeon encountered a device which promised as revolutionary a possibility as any suggested by forerunners of the space age.

Dr. José Ramirez Dueñas, Vice-President, Ecuadorian Section; Dr. Harry E. Bacon, Philadelphia, President-Elect, United States Section; Dr. Francisco Rizzo Velasco, Treasurer, Ecuadorian Section; Dr. Fernando Gutierrez H., Guayaquil, Ecuador; Dr. Max Thorek, Founder and Secretary General, International College of Surgeons, and Dr. José Molestina R., Guayaquil, Ecuador

Banquet

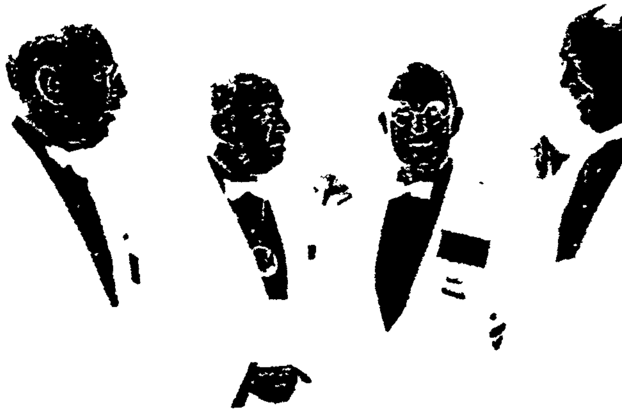
The numerous and greatly enjoyed social activities of the Congress culminated in the banquet held in the Grand Ballroom of the Palmer House on the evening of Wednesday, September 16.

Preceding it came the gala Speidel social hour in the adjoining Red Lacquer Room. There the festive great oval *hors d'oeuvre* table with its infinite variety of enticing tidbits drew with magnetic insistence all who came within its orbit, while intimate parties sitting at small café-style tables attracted greetings from those who moved about, joining one group after another and evidencing the friendliness and informality that characterized to an extraordinary degree a gathering of more than a thousand people.

An orchestra in the balcony of the ballroom provided gay and stirring music before and during dinner.

The Right Reverend Monsignor Edward M. Burke, chancellor of the Archdiocese of Chicago, offered the Invocation.

Dr. Edward L. Compere, as chairman of the Congress, opened the after-dinner program, introducing Dr. Morris Fishbein, famous as a wit and *raconteur,* as well as a great man of medical and kindred literature.



Dr. Claude J. Hunt, F.A.C.S., F.I.C.S. (Hon.), Kansas City, Missouri, Chairman, Board of Trustees, United States Section; Dr. Harry E. Bacon, F.A.C.S., F.I.C.S. (Hon.), Philadelphia, President-Elect, United States Section; Dr. Edwin J. Grace, F.A.C.S., F.I.C.S., Brooklyn, President, New York State Surgical Section, and Dr. George S. Lull, F.A.C.S., F.I.C.S. (Hon.), Chicago, Assistant to the President, American Medical Association.

Mrs. Edwin Karley Pinkerton
President, Women's Auxiliary to
Canadian Section

Dr. Ross T. McIntire, executive director of the College, having recently returned from a European tour, brought with him an honor key of the University of Vienna, which the American Medical Society of the University of Vienna had asked him to present on its behalf to Dr. Compere. This he did very effectively.

Dr. McIntire had with him another key, intended for Dr. Horace Ayers, F.I.C.S. (Hon.), regent for the College in New York State. Dr. Ayers, however, being indisposed, the presentation had to be postponed to a later date.

Dr. Max Thorek, founder and secretary general of the College, graciously and with enlivening humor introduced those seated at the speakers' table and with customary spirit included other guests of distinction who, because of the sheer limitation of

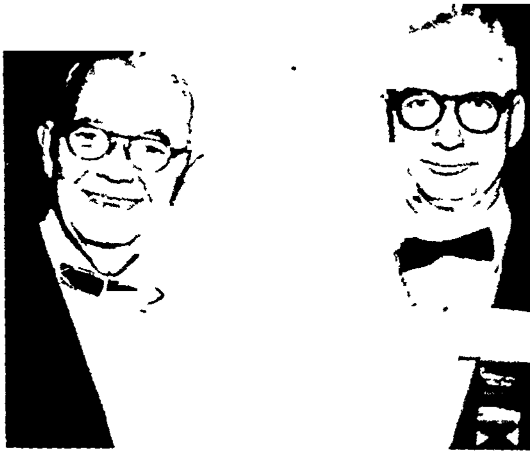
Prof. and Mrs. Sten A. Friberg

space, could not be accommodated on the dais.

The formal speech of the evening was the presentation by **Lt. Comdr. John H. Ebersole**, M.C., U.S.N., of an illustrated talk on *Outer Space and Inner Space.* Comdr. Ebersole, as medical officer on the USS Seawolf (SS(N)575), gave some interesting details of living on a constantly submerged atomic submarine during that epic voyage, as all the world knows, lasting sixty days.

Dr. Anthony Martin Barone, chairman of the banquet committee, and all those who cooperated with him, including the ladies of the hospitality committee, have ample reason for feeling their efforts well rewarded, for the occasion was a memorable success.

Lavish hors d'oeuvre table, Speidel social hour

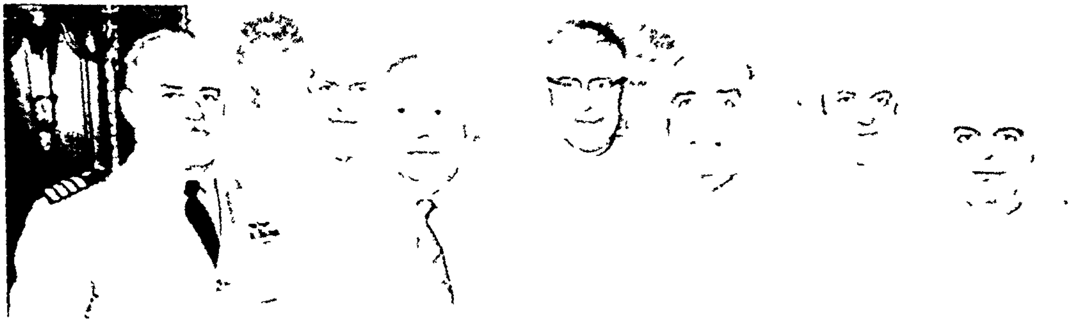


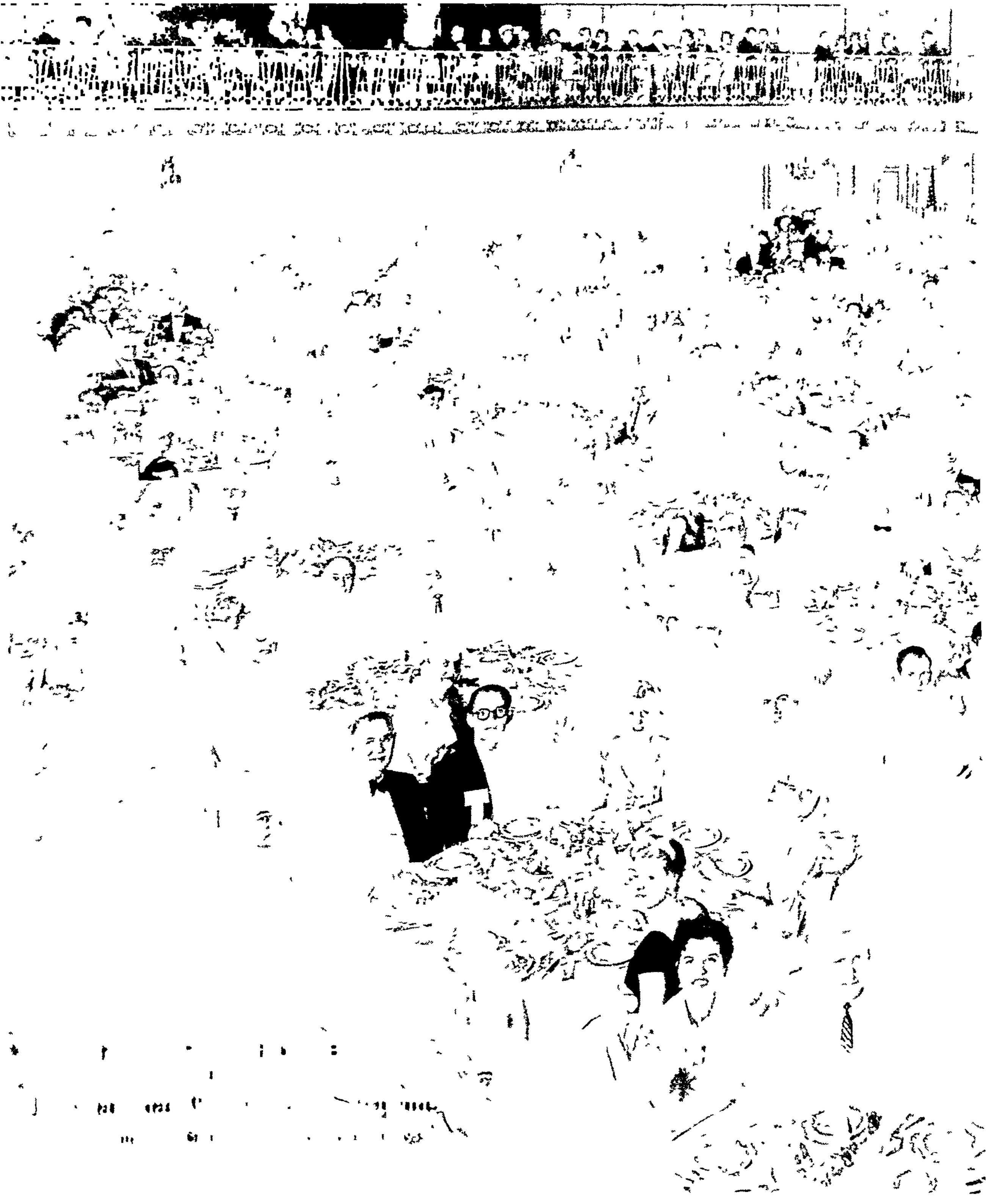
Dr. Curtice Rosser, past-president, and Dr. Edw
L. Compere, president, United States Sectio

Prof. Dr. Raymond Darget
Secretary, French Section

Dr. Karl A. Meyer
Secretary, United States Section

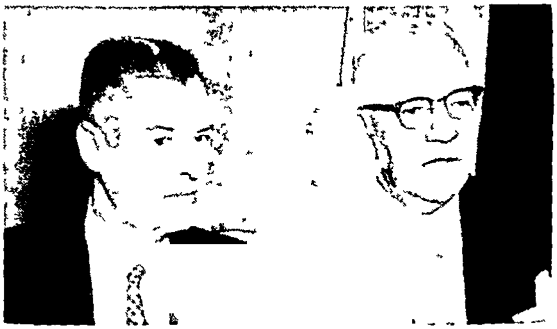
Capt. Charles F. Gell, M.C., U.S.N., Special Assistant for Medical Services, Office of Naval Research, Washington; Capt. David Minard, M.C., U.S.N., Naval Medical Research Institute, National Naval Medical Center, Bethesda, Maryland; Vice Adm. Ross T. McIntire, M.C., U.S.N. (ret.), Executive Director, International College of Surgeons; Prof. Dr. Dietrich E. Beischer, Head, Biophysical Laboratory, School of Aviation Medicine, Pensacola, Florida; Rear Adm. Bartholomew W. Hogan, M.C., U.S.N., Surgeon General, U.S. Navy, Washington; Capt. Clifford P. Phoebus, M.C., U.S.N., Director, Astronautical Division, Bureau of Medicine and Surgery, Washington, and Lt. Comdr. John H. Ebersole, M.C., U.S.N., Medical Officer, U.S S. Seawolf [SS(N)575], New London, Connecticut





Dr. David Kopel, F.R.S.M., F.I.C.S., Cayo, British Honduras, Head of Government Hospital, Member, H.M. Overseas Medical Service; Dr. Horace E. Turner, F.A.C.S., F.I.C.S., Chicago, Member, Board of Governors, International College of Surgeons; Dr. Charles P. Wilson, C.V.O., F.R.C.S., Senior Surgeon, Department of Otolaryngology, Middlesex Hospital, London, Director, Ferens Institute of Otolaryngology, and Dr. John R. Lindsay, F.A.C.S., F.I.C.S. (Hon.), Professor and Chairman, Department of Otolaryngology, University of Chicago School of Medicine

Prof. Dr. Jean P. Creyssel
President, French Section



Dr. David S. Leighninger, Director, Cardiovascular Surgery Research Laboratory and Senior Instructor in Surgery, Western Reserve University School of Medicine, Cleveland, and Dr. Claude S. Beck, Professor of Cardiovascular Surgery, Western Reserve University School of Medicine, Cleveland

Dr. Mario Gonzales-Ulloa, F.A.C.S., F.I.C.S., Director, Sanatorio Dalinde, Mexico, D.F., and Dr. Max Thorek, Founder and Secretary General, International College of Surgeons

Dr. Ross T. McIntire, Executive Director, International College of Surgeons, Chicago, and Howard H. Vogel, Jr., Ph.D., Group Leader on Neutron Toxicity, Division of Biological and Medical Research, Argonne National Laboratory, University of Chicago, Lemont, Illinois

Prof. Sten A. Friberg, Senator Lister Hill and Dr. Ross T. McIntire

Convocation

The brilliant and colorful Convocation ceremonies, held at the Civic Opera House on Thursday evening, September 17, 1959, were the culmination not only of the five days of various sessions of the Twenty-Fourth Annual Congress of the North American Federation of the International College of Surgeons but also of a year of College activities, a twelve-month period during which the College internationally had enrolled fifteen hundred new members.

The Convocation was an impressive pageant. Music was provided by Mr. Al Melgard at the deep-toned organ and by an orchestra under the baton of Mr. John Weicher, concertmaster with the Chicago Symphony Orchestra. Color was provided by the massed flags of the constituent Sections of the College and by the academic robes and their symbolic embellishments. Dignity pervaded the processions. Much credit for the management of a ceremonial of such complexity should go to Dr. Horace E. Turner, honorary chairman, and Drs. William F. Lauten, Ernest F. Purcell, and Francis D. Wolfe, co-chairmen of Convocation; to Dr. Ernest F. Purcell as director of pageantry and Dr. Claire E. Carr as director of music and as monitor; to Dr. Francis D. Wolfe as Marshal and Dr. Walter C. Burket as associate marshal.

Dr. Henry W. Meyerding, president of the International College of Surgeons, and

Conferring of Honorary Degrees

Prof. Dr. Raymond Darget and Prof. J. André Thomas

address, *The International College of Surgeons and the Health of Our People,* which appears in part I of this issue of the *Journal.*

Honorary degrees were conferred upon a distinguished group of surgeons and persons who have contributed greatly to the health of the community. Dr. Meyerding, Dr. Thorek and Dr. McIntire, assisted by sponsoring Fellows, conducted the ceremony in a highly impressive manner.

The Convocation Address, *University and Society,* was read by **Prof. Sten Axel Friberg** of Stockholm, Sweden, rector of

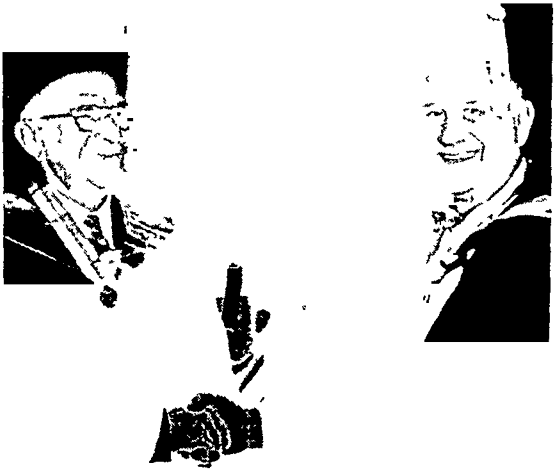
Dr. Edward L. Compere, president of the United States Section, shared in opening the program.

The Invocation was delivered by **Dr. August M. Hintz**, D.D., Pastor of the North Shore Baptist Church in Chicago.

Following it came the procession flags and the presentation of colors.

Dr. Ernest F. Purcell then conducted a moving memorial service for deceased members of the College.

The Honorable Joseph Lister Hill, United States Senator from Alabama, introduced by Dr. Ross T. McIntire, executive director of the College, delivered an



Dr. Samuel Rosen and Dr. Francis L. Lederer

Dr. Max Thorek and Dr. Henry Meyerding conferring degrees upon Dr. David Kopel, Cayo, British Honduras; Dr. Tadeusz Anthony Schimanek, Toronto, Canada; Dr. Mariano Garcia de Rueda, Spain; Dr. Armando de Caldas C., Spain, and Dr. Ranbir S. Rana, India

Dr. Johnnie R. Betson, Jr., Albuquerque, New Mexico, representing Junior Members, receives diploma from Dr. Compere

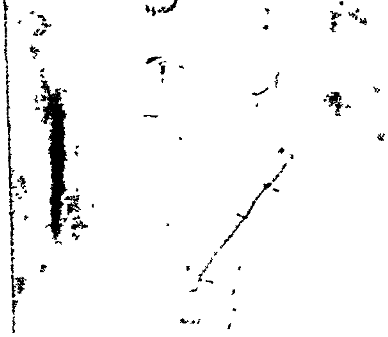
the Karolinska Mediko-Kirurgiska Institutet, surgeon-in-charge of its orthopedic clinic, chairman of the board of the University of Stockholm, and member of the board of the Nobel Foundation. The address, a most thoughtful and farseeing consideration of the higher learning in its relation to society, will appear in a forthcoming issue of the *Journal.*

Mrs. Earl Ingram Carr, president of the Woman's Auxiliary to the United States Section of the College, introduced **Mrs. Park Niceley**, the president-elect, and turned over to her the insignia of office.

Dr. J. P. Legault of Montreal, vice-president, and **Dr. E. N. C. McAmmond** of Vancouver, secretary, conducted the ceremony of inducting candidates into the Canadian Section.

Dr. Meyerding and Dr. Thorek accepted into membership candidates of other Sections, and then Dr. Compere and **Dr. Harry E. Bacon**, president-elect, inducted candidates into the United States Section.

Previously, all the candidates had signified in unison their acceptance of the College Pledge, administered to them by Dr. Edward L. Compere and Dr. Claire E. Carr.



Prof. Sten Axel Friberg

Music and the recessional march marked the completion of the Convocation and the end of the great Twenty-Fourth Annual Congress of the North American Federation of the International College of Surgeons.

Dr. J. P. Legault and Dr. E. N. C. McAmmond congratulate Dr. Donatien Marion

Mother M. Benedict, Dr. John B. O'Donoghue, and Mother Anna Maria Dengel

Honorary Fellows

Prof. Dr. Jean Creyssel

Mother Anna Maria Dengel

Prof. Sten A. Friberg

Jean Creyssel, M.D., F.I.C.S., Professor of Clinical Surgery, University of Lyon, France; Surgeon to the hospitals of Lyon; Member: Association Nationale de l'Académie de Chirurgie, Société de Chirurgie de Lyon (Past-President), Société Française d'Orthopédie et de Traumatologie (Past-President), Société Internationale d'Orthopédie, Conseil Supérieur des Hôpitaux (Ministère de la Santé), Paris; President of the French Section of the International College of Surgeons. His many honors include the Croix de Guerre in both World Wars, decorations as Officer of the Legion of Honor, Officer of Public Instruction and Chevalier of the Order of Public Health. Prof. Creyssel has made notable contributions to the literature of his specialty.

Presented by **Harry E. Bacon**, M.D., F.A.C.S., F.I.C.S. (Hon.), Philadelphia, Pennsylvania.

Mother Anna Maria Dengel, M.D., Superior General of the Medical Mission Sisters, Rome, Italy, and Foundress of the Society of Catholic Medical Missionaries (1926) to give professional medical service to people in underdeveloped countries. Mother Dengel has founded thirty hospitals in India, Pakistan, Indonesia, Africa and Venezuela. She is a member of the British Medical Association, the Punjab Medical Association of India, the American Women's Medical Association and Alpha Epsilon (Hon.). She holds honorary degrees from the National University of Ireland, Marquette University, Manhattanville College and the Catholic University of Nijmegen (Holland). A world traveler, Mother Dengel has contributed much to the literature from her own experience, and done much to alleviate human suffering in many parts of the world.

Presented by **John B. O'Donoghue**, M.D., F.A.C.S., F.I.C.S., Chicago, Illinois, and **Mother M. Benedict**, M.D., F.I.C.S., Philadelphia, Pennsylvania.

Sten A. Friberg, M.D., Rector of the Karolinska Institutet, Surgeon-in-charge of the Orthopedic Clinic of the University of Stockholm, Sweden. He is a member of the Board of the Nobel Foundation and of Karolinska Sjukhuset. Prof. Friberg, an internationally known orthopedic surgeon, delivered the Herbert Acuff Memorial Address at the General Assembly and a Convocation Address at the Civic Opera House during the Congress.

Presented by Edward L. Compere, M.D., F.A.C.S., F.I.C.S. (Hon.), Chicago, Illinois.

The Honorable Joseph Lister Hill, United States Senior Senator from Alabama; scion of a family noted during many generations for its distinguished men of medicine; dedicated student of the relation of society and government to public welfare, health and medicine; acknowledged congressional leader in legislation concerning health and medicine; champion of the cause of rehabilitation of physically and mentally handicapped; author of essential programs for aid to hospitals and health centers, support of medical research, encouragement of needed health and medico-technical education, and intensification of the public campaign against communicable and environment-caused disease; enlightened and courageous advocate of international cooperation in medical research, and a comrade in arms with surgeons and the entire medical profession in its war against death and disease.

Presented by Philip Thorek, M.D., F.A.C.S., F.I.C.S., Chicago, Illinois.

Rear Admiral Bartholomew W. Hogan, M.C., U.S.N., Surgeon General and Chief of the Bureau of Medicine and Surgery of the United States Navy; Associate Professor of Psychiatry, Georgetown University School of Medicine, Washington, D. C. First appointed to his present post in 1955, he was reappointed by President Dwight D. Eisenhower in January, 1959, to serve an additional two-year term. His service in World War II brought him the Silver Star medal and the Navy and Marine Corps medal, the Purple Heart, the American Defense Service medal with star, the American Campaign medal with two stars, the Asiatic-Pacific Campaign medal with four engagement stars, the World War II Victory medal, and the National Defense medal. He is a Fellow of the American College of Physicians, a Diplomate of the American Board of Psychiatry and Neurology, a member of the Board of Trustees of the American Hospital Association, and a member of the House of Delegates of the American Medical Association. He is the author of many scientific papers, and holds four honorary doctorates from noted universities.

Presented by Ross T. McIntire, M.D., F.A.C.S. (Hon.), F.I.C.S. (Hon.), Chicago, Illinois.

Senator Joseph Lister Hill

Rear Admiral
Bartholomew W. Hogan

Dr. Arnold S. Jackson

Arnold S. Jackson, M.D., F.A.C.S., F.I.C.S., D.A.B., Director of the Jackson Clinic and Chief of Staff of the Methodist Hospital, Madison, Wisconsin. Dr. Jackson is a member of the Western Surgical Association, the Wisconsin Surgical Society (Past-President), the American Goitre Association, and the Wisconsin Surgical Society (Past-President). He holds honorary memberships in the Surgical Societies of Rome, Madrid, Florence, St. Paul, and the University of Bordeaux Medical School. He is a member of the Mayo Alumni Foundation, and Past-President of the United States Section, International College of Surgeons. As President of the United States Section, Dr. Jackson was an indefatigable worker in the interests of the College. He was coordinator of the 1958 Around the World Postgraduate Clinic Tour of the College, and is a contributor to its *Journal.*

Presented by **Claude J. Hunt,** M.D., F.A.C.S., F.I.C.S. (Hon.), Kansas City, Missouri.

Donatien Marion, M.D., F.R.C.S. (Canada), Professor of Obstetrics and Governor of the University of Montreal, Canada; Chief of Obstetric service of Montreal Notre Dame Hospital. Prof. Marion has been General Secretary-Treasurer of the Association des Médecins de Langue Française de l'Amerique du Nord since 1932; he is a Life Member of the International Association of Anatomists, Honorary Director General of the Association des Médecins de Langue Française du Canada, Past-President of the Obstetric Society of the Province of Quebec, and Past-President of the Union Médicale of Canada. He holds the degree of Doctor Honoris Causa from Ottawa University, and the decoration of Officer of the French Academy.

Presented *by* **Jean Paul Legault,** M.D., F.A.C.S., F.I.C.S., Montreal, Canada.

Louis McDonald Orr, M.D., F.A.C.S., D.A.B., President of the American Medical Association; Consultant in Urology and Director of Postgraduate Education at Orange Memorial Hospital, Orlando, Florida. Dr. Orr is a member of the American Association of Genito-Urinary Surgeons, the American Urological Association, Southern Medical Association, Southeastern Surgical Congress, American College of Surgeons, International Society of Urology, Society of Nuclear Medicine, and was a founding member of the American Board of Urology in 1936. He is a member of the consulting staff of Nuclear Studies, Medical Division, at Oak Ridge, Tennessee, and founder of the Louis M. Orr Foundation for Cancer Research at the Orange Memorial Hospital. He has been a Vice-Speaker of the

Dr. Donatien Marion

Dr. Louis McDonald Orr

Dr. Samuel Rosen

Dr. Curtice Rosser

Dr. Ralph E. Snyder

House of Delegates of the American Medical Association; Chairman of the Federal Medical Services Committee, ex-officio member of the Council on Constitution and Bylaws of the American Medical Association, and Past Member of its Council on Medical Service. He is a former member of the U. S. Committee of the World Medical Association. He founded the first blood bank in Florida. Dr. Orr has contributed heavily to the medical literature in his field.

Presented by George F. Lull, M.D., F.A.C.S., F.I.C.S. (Hon.), Chicago, Illinois.

Samuel Rosen, M.D., D.A.B., Consulting Otologist, Department of Otolaryngology, and Chief of the Stapes Mobilization Clinic, Mount Sinai Hospital, New York City; Associate Clinical Professor of Otolaryngology, Columbia University; member, American Otological Society, American Otorhinolaryngology Society, American Academy of Ophthalmology and Otolaryngology, New York Academy of Medicine and American Medical Society of Vienna (Hon.). Dr. Rosen has been responsible for reviving interest in a long since abandoned procedure of mobilizing the stapes for certain types of hearing loss. He is recipient of the 1959 Distinguished Service Award of the Section on Ophthalmology and Otorhinolaryngology of the International College of Surgeons.

Presented by Francis L. Lederer, M.D., F.A.C.S., F.I.C.S. (Hon.), Chicago, Illinois.

Curtice Rosser, M.D., D.Sc. (Hon.), F.A.C.S., F.I.C.S., D.A.B., Clinical Professor and Head of the Division of Proctology, Southwestern Medical College of the University of Texas; Chief, Department of Proctology, Baylor University, Dallas, Texas; Fellow, Texas and Southern Surgical Associations; Advisory Member and Past-President, American Board of Proctology; Past-President, American Proctologic Society and Southern Medical Association; Honorary Fellow of the American Proctologic Society; Immediate Past-President, United States Section of the International College of Surgeons, and the author of many scientific contributions to the literature of his specialty.

Presented by Herbert T. Hayes, M.D., F.A.C.S., F.I.C.S., Houston, Texas.

Ralph E. Snyder, M.D., Dean and Chief Executive Officer, New York Medical College, New York City. In addition to his administrative duties, Dr. Snyder is active in Veterans Administration Hospitals in New York and Lyons, New Jersey; the New

Prof. Dr. J. André Thomas

Prof. Dr. Pietro Valdoni

York Committee on the Study of Hospital Internships and Residencies; the Education Committee of the New York Academy of Medicine; the Research Council of New York City; the Sub-committee on Post Graduate Medical Education, New York Cancer Society; the Association of American Medical Colleges, and the Mayor's Advisory Committee for the Aged (N.Y.C.). He is chairman of the Medical Board of the Metropolitan Hospital Center (N.Y.C.), and Consultant to the Surgeon General of the U. S. Army. He is a prolific writer on medical education.

Presented by **Horace E. Ayers**, M.D., F.A.C.S., F.I.C.S. (Hon.), New York City.

J. André Thomas, M.D., D.Sc., Professor, Faculty of Sciences, the Sorbonne, Director of the Cellular Biology Laboratory and member of the faculty of the Pasteur Institute, Paris, France. He is a laureate of the French Academy of Medicine and the French Academy of Sciences and a member of the French National Committee for Scientific Research. He is an Officer of the Legion of Honor, and holds the medal of the French Resistance and the Gold Medal of Merit for civic service. Prof. Thomas has done much research and experimentation in artificial circulation, oxygenation of the blood, etc. He is the author of 160 scientific publications, and won the Grand Prize of the International Exhibit at Brussels for the artificial pulmonary membrane which he invented, and which he demonstrated at the Congress.

Presented by **Prof. Dr. Raymond Darget**, F.I.C.S. (Hon.), Bordeaux, France.

Pietro Valdoni, M.D., F.A.C.S. (Hon.), Professor of Surgical Pathology at the University of Rome, Italy; Vice-President of the Academia Medica of Rome, the Roman Surgical Society, the Italian Surgical Society, the Italian Society of Gastroenterology, the Italian Society of Thoracic Surgery. He is an Honorary Fellow of the American College of Surgeons, Thoracic Society, and the Surgical Society of Russia. Prof. Valdoni has contributed a great deal to the development of surgery of the abdomen and the thorax, surgery of the heart and peripheral circulatory system. He has also contributed extensively to the scientific literature. He is President of the Italian Section of the International College of Surgeons, and President of the Twelfth Biennial International Congress to be held in Rome May 15-18, 1960.

Presented by **Max Thorek**, M.D., LL.D., Sc.D., D.C.M., F.I.C.S. (Hon.), F.B.C.S., F.P.C.S. (Hon.), F.R.S.M.

Honorary Members

Mr. Cecil J. Birtcher

Mr. Tomlinson Fort

Mr. David Lawrence Helfferich

Cecil J. Birtcher, President of The Birtcher Corporation, Los Angeles, California, which he founded twenty-four years ago for the manufacture of electronic medical instruments which have served the surgical profession nearly a quarter of a century and have found usefulness in seventy-five other countries. He has been for five years a Director of the Los Angeles County Heart Association, and is director of several other corporations; he is a member of the National Surgical Trades Association. Mr. Birtcher has for many years supported medical scholarships for worthy candidates for the practice of medicine, and is contributing to many medical and surgical activities to aid medicine and surgery in their endeavors for progress. He is a member of the Consulting Board of the International Surgeons' Hall of Fame.

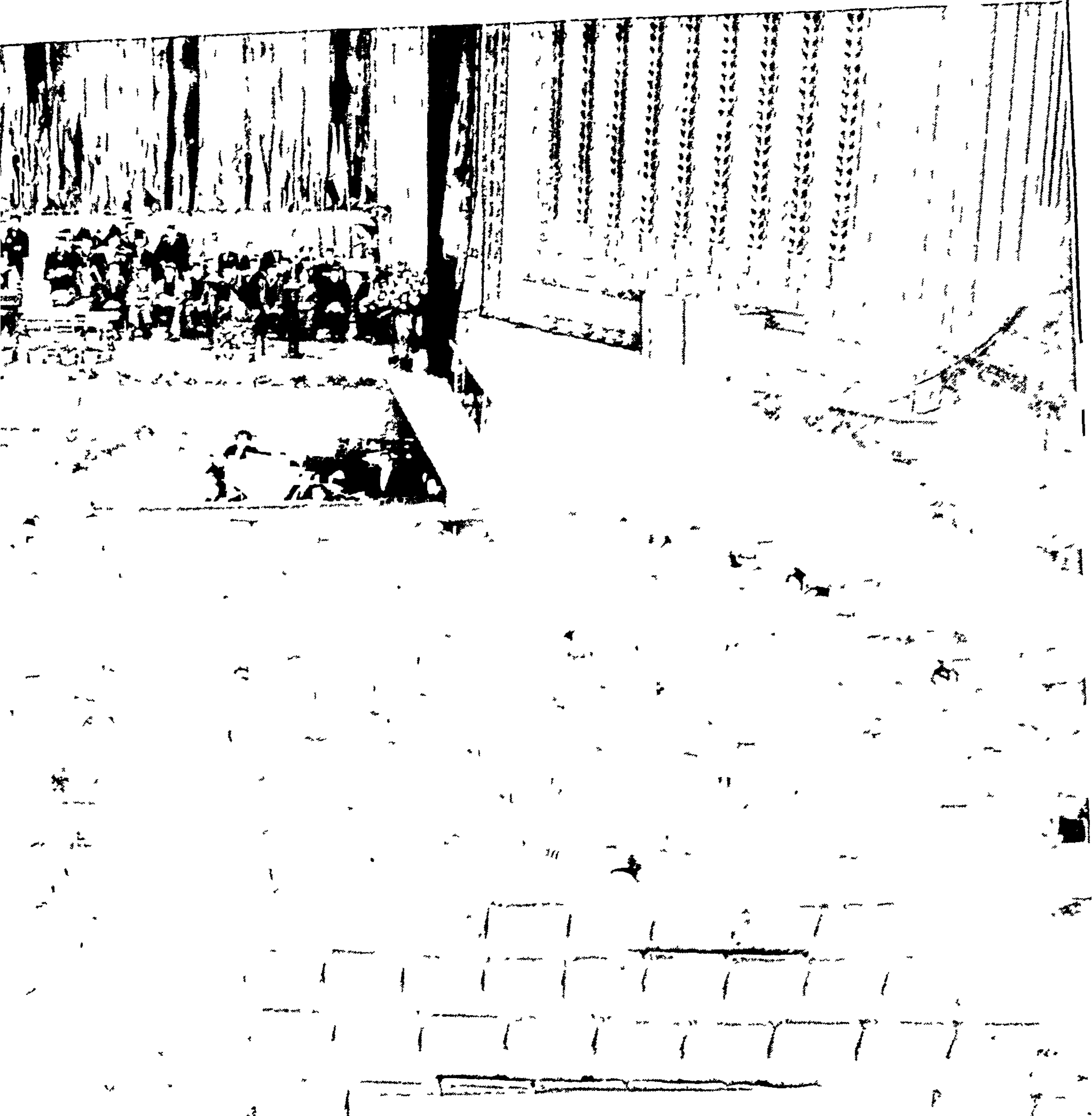
Presented by Horace E. Turner, M.D., F.A.C.S., F.I.C S., Chicago, Illinois.

Tomlinson Fort, LL.D. (Hon.), Vice-President of the Westinghouse Electric Corporation, Pittsburgh, with which he has been associated for thirty-five years. Electrical apparatus being of such great importance in the armamentarium of the surgeon, Mr. Fort has contributed much in this direction, and was awarded the Certificate of Merit by the American Society of Mechanical Engineers in 1948. He received his LL.D. degree from his Alma Mater, New Mexico State University, in 1952. He is the author of a number of highly technical articles which will aid in the development of the uses of electricity in one form or another in the alleviation of human suffering.

Presented by J. P. Greenhill, M.D., F.A.C.S., F.I.C.S. (Hon.), Chicago, Illinois.

David Lawrence Helfferich, LL.B., LL.D. (Hon.), President, Ursinus College, Collegeville, Pennsylvania. Dr. Helfferich is a well-known educator; a member of the Pennsylvania State Council on Education, the Board of Vocational Rehabilitation and the Advisory Board, Pottsdown (Pa.) Memorial Hospital. He was Co-Chairman of the Citizens Committee for the Hoover Report. He has been honored by a number of organizations, and has contributed much to various phases of general education and to vocational rehabilitation. He has an honorary doctorate from Ursinus College.

Presented by Park Niceley, M.D., F.A.C.S., F.I.C.S., Knoxville, Tennessee.



CONVOCATION CEREMONIES
TWENTY FOURTH ANNUAL CONGRESS
OF THE
International College Of Surgeons

CIVIC OPERA HOUSE - CHICAGO - SEPTEMBER 17, 1959

Comments by the Founder

DEATH TAKES NO HOLIDAY

Dr. Max Thorek

No surgeon, no member of the medical profession, needs to be reminded that death is our constant enemy. We push him back from old battle lines and wrest from him reprieve after reprieve. We remain alert. We counter with knowledge and advanced technic his every threat and foray. But the decision ultimately lies in other than our skilled but finite hands. Often our hearts are heavy.

I could not therefore write immediately at length of the death of certain friends. I had to bide the time until my grief was somewhat stilled and transmuted to a gentler and more appropriate sentiment than that which at first overwhelmed me.

Arthur Steindler

I remember clearly a day, though I don't recall the exact date, when I met Arthur Steindler by appointment for dinner at a restaurant that specialized in an old-world cuisine. Arthur had but recently come to Chicago from Vienna and was working with Dr. John Ridlon at the old St. Luke's Hospital. He found much in America that was to his liking. Much, however, was obscure and confusing. He sought an explanation for everything. He had to understand before he could function. And he had to function exactly and correctly, in small matters as well as in great.

So we sat long over our coffee that evening and discussed the status of surgery and surgical specialties in the United States. That was perhaps fifty years ago. But even now I can recreate in my mind's eye that picture of ourselves—two fledgling surgeons—enjoying our good dinner and the good talk, so serious, so precise, so scientific, and at the same time both modest and ambitious. We were dedicated to our mistress *Chirurgia* and determined to make a worthy contribution in her service. And if we hoped that somehow a little fame might accrue to our efforts, who can blame us? Youth is a time for dreams and plans and it is only natural that these should include hope for self-realization and some degree of recognition. These are a spur to that single-minded hewing to the line and an incentive to that self-denial of the simple pleasures of leisure, all innocent enough and salutary, which the surgeon, if he is to rise in his profession, must forego.

Arthur Steindler fulfilled his destiny completely. Within five years after leaving Chicago he was head of the orthopedic department at the State University of Iowa College of Medicine and on his way to becoming one of the acknowledged architects of the science and practice of orthopedics. Many honors came to him from all over the world.

He was long a Fellow of the International College of Surgeons and the regent for the College in Iowa. He was a vice-president of the United States Section, honorary chairman of its orthopedic section and a member of the International Board of Governors. In 1947, Honorary Fellowship was conferred upon him, and last year at the Congress in Los Angeles the sessions of the orthopedic section were dedicated to him and held in his honor.

Yes, Arthur Steindler was a great

orthopedic surgeon, a great scientist, a great teacher. His students are now among the orthopedic world's renowned leaders, teachers, scientists. He was proud of them, and they in turn revered him for all his distinguished attributes, and for none more than for his qualities of kindness and helpfulness.

Clement Leon Martin

I don't know which was the greater bond between Clem Martin and me, our personal friendship or our dedication to the International College of Surgeons. The two were so interwoven that to us they were as one. Each day since his death I miss him more and more.

Clem was a busy man, a practicing proctologist, a teacher at Loyola University Medical School, director of the Loyola-Mercy proctologic clinic and proctologic consultant to several hospitals. He belonged to a great many organizations and was active in a number of them. He had been a vice-president of the American Proctologic Society and had served as president of the North Side branch of the Chicago Medical Society. He was a member of the American Association for the Advancement of Science and the Association of Military Surgeons of the United States.

Whatever he believed to be important he sought to serve. He assumed responsibility with a sense of dedication and evaded no task it might involve. He found the necessary time and took pleasure in performing the detailed and sometimes arduous duties associated with his office as international treasurer of the College. His beloved wife, Mary Helen, in a graceful acknowledgment of the many expressions of sympathy and understanding that came to her from the College and from individual members of the executive council, said of Clem:

"His own appreciation of the power and influence of the International College was deep-rooted and steadfast. He valued highly his position on the Council and as international treasurer. . . . His last work was a supreme effort to complete a report. . . . So great was his regard for the College and his pride in its achievements that I felt it fitting that he be buried in his robe and badge of office. . . . Dr. Edward Compere as his valued friend and president of the United States Section paid Clem the final tribute of acting as a pallbearer."

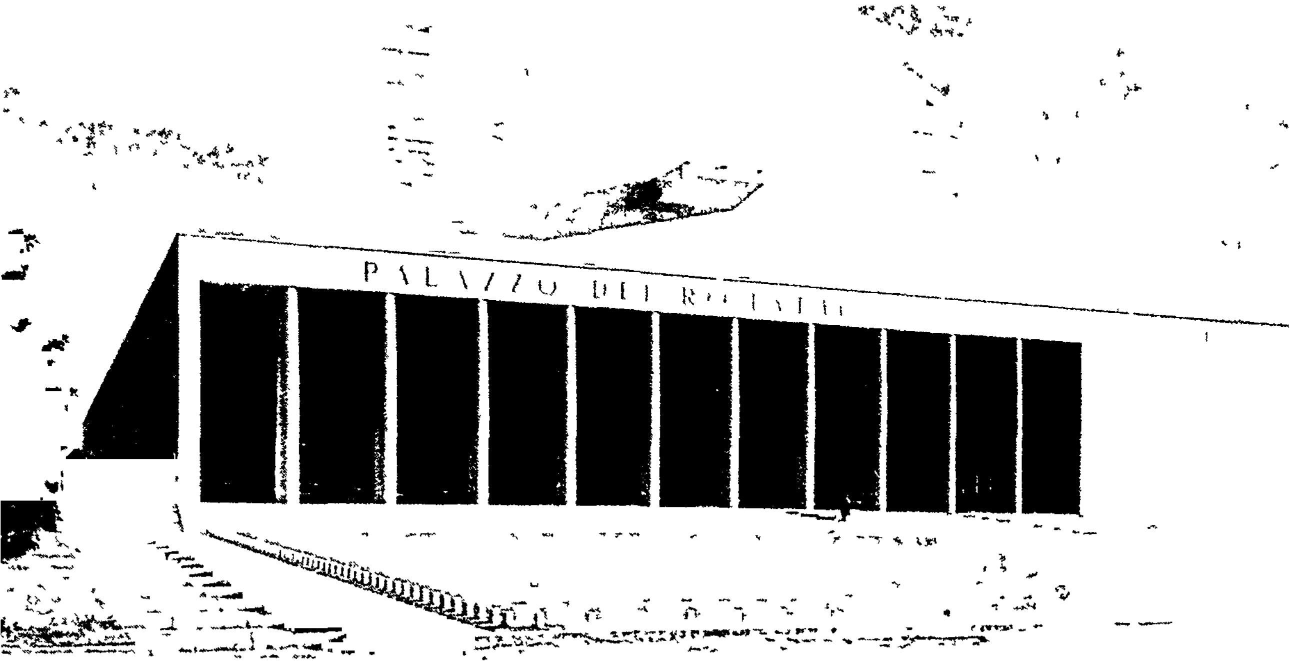
Clem was a devout and observant member of his Church. It was moving, therefore, to remember during the funeral service, amidst the high religious pageantry, that Clem in his coffin wore the symbolic garments he had worn at so many College Convocations. And thus we shall recall his presence, with its kindly and courteous bearing, at meetings of the executive council and at many Convocations to come.

To our departed friends:

Socii! Amici! Ave atque vale!

Max Thorek

The Editorial Office of the Journal of the International College of Surgeons will appreciate receiving the names of our members who wish to aid in abstracting the foreign literature. Those who are interested, kindly communicate with Dr. Max Thorek, Editor-in-Chief, Journal of the International College of Surgeons, 850 West Irving Park Road, c/o The American Hospital of Chicago, Chicago 13, Illinois, U.S.A.



Congress Meeting Place

Twelfth Biennial International Congress

INTERNATIONAL COLLEGE OF SURGEONS

May 15-18, 1960 Rome, Italy

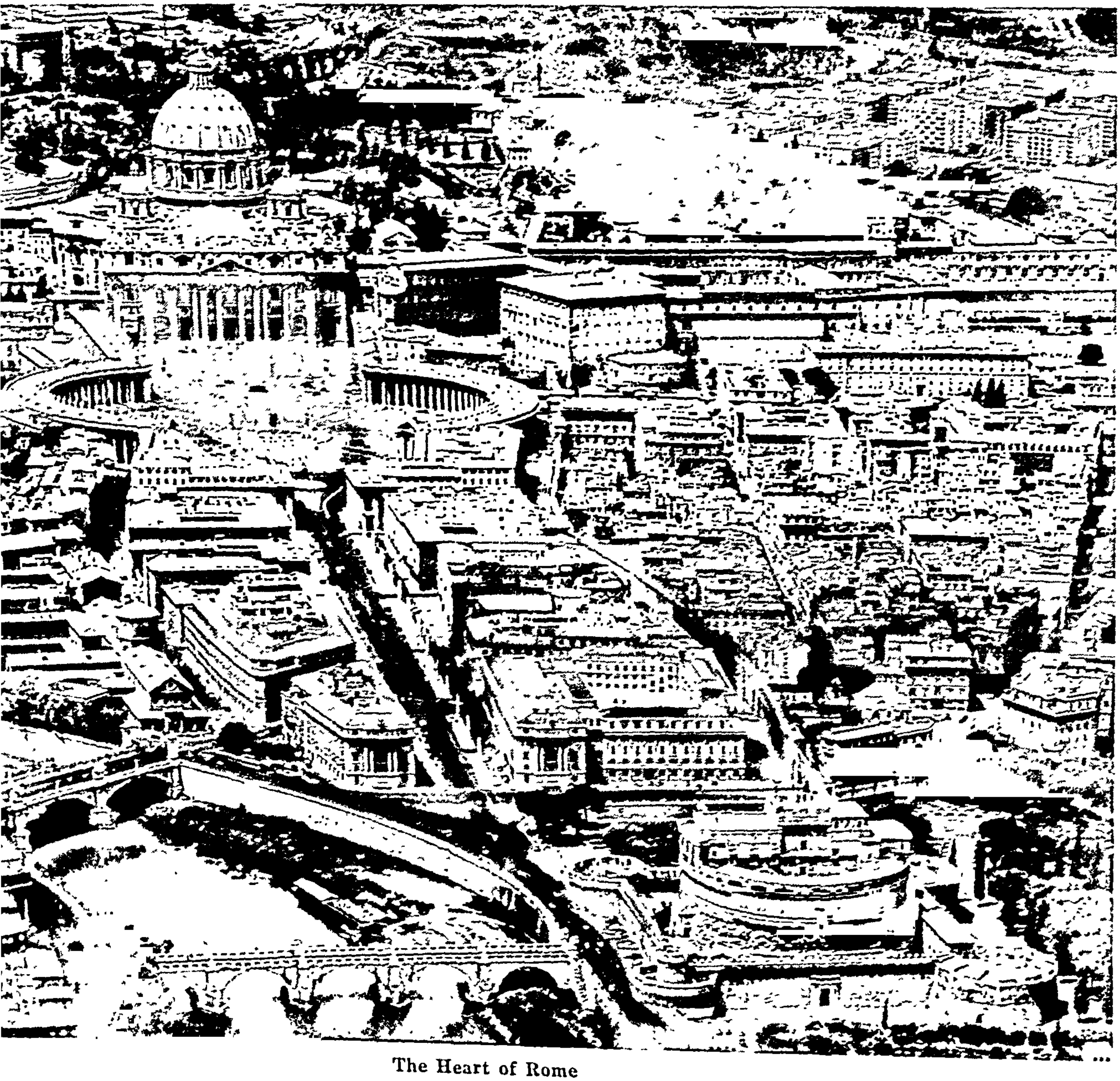
The front door to the office of a businessman with a philosophic bent of mind bears an eye-appealing inscription written in Chinese characters. Freely translated, these become words of wisdom in any language. In English, for example, they mean, *To See a Thing Once is Better Than to Hear About it a Hundred Times.* The truth of this statement forms a bridge over which an ancient proverb comes to apply to us today in many ways. Take Rome, for instance.

Certainly to see Rome is far, far better than to hear about it! And what better opportunity is there than the forthcoming International College of Surgeons Twelfth Biennial World Congress to be held in Rome, May 15-18, 1960. Along with this chance to see Rome comes an ever-widening scope of other sights. In fact, there are four great ways to the gateways of continental Europe and Russia for you to choose from when you decide to attend the Rome Congress. These four attractive tours actually are built around and include the Congress, while at the same time they offer complete diversification in routings through outstanding localities abroad.

Decide right now to take advantage of

is opportunity to combine business with leasure. Make your reservations secure ow. A word of caution: Steamship opons are extremely short! And a word of ssurance: No doubt you will see many of our friends on any one of these tours, dging by the rate that reservations are being recorded. Fully descriptive folders are available on request and any independent travel request is welcome.

The official tour representative of the International College of Surgeons is International Travel Service, Inc., 119 South State Street, Chicago 3, Illinois.



The Heart of Rome

From the Executive Director's Notebook

SOME SIGNIFICANT ASPECTS OF THE CONGRESS

Dr. Ross T. McIntire

The 24th Annual Surgical Congress of the North American Federation of the International College of Surgeons proved to be one of the finest in its history. The scientific program was so well arranged by **Dr. Peter Rosi** that the continuity of interest kept a full attendance at all sessions.

One outstanding feature of this Congress was the inclusion of the countries of Central America and the Caribbean. The newest international Section in the International College of Surgeons—Ecuador—was well represented by its vice-president, **Dr. Jose Ramirez, D.,** who appeared on the program of the General Assembly on the subject, *Pelvic Exenteration for Cancer*. This Section contains the outstanding surgeons of Ecuador and from the planning that is now under way, it should be a splendid addition to our world organization.

Numerous surgeons from Europe were present and their contribution to the scientific program added greatly to its excellence. Special praise should be given to **Prof. Dr. J. André Thomas,** whose demonstration of his device for artificial cardiopulmonary circulation will probably bring about a Nobel Prize Award. Prof. Thomas is one of the outstanding members of the faculty of the Sorbonne.

Mr. Charles P. Wilson, a Fellow of the Royal College of Surgeons and director of the Ferens Institute of Otolaryngology, gave several talks in the E.E.N.T. specialty section. **Prof. Dr. Alfonso de la Peña,** professor of urology at the University of Madrid, gave an outstanding presentation on his methods of prostatectomy.

The Acuff Lecture was given by **Prof. Sten A. Friberg,** rector of the Karolinska Institutet of Stockholm, Sweden. He was also a speaker at the Convocation program on September 17. His very thoughtful address on *University and Society* will long be remembered. Prof. Friberg discussed, at length, the danger of overspecialization in medicine and surgery, especially during the formative years of young men in medicine.

Rounding out some outstanding presentations on cardiovascular surgery, was the Andre Crotti Lecture by **Dr. Claude S. Beck,** professor of cardiovascular surgery at Western Reserve University School of Medicine.

One feature of the past Congress was the honoring of three great surgeons who practiced their art in Chicago around the turn of the century. The memorial lectures were given by Chicago men, all members of the Chicago Medical Society. **Dr. Karl Meyer** gave the John B. Murhpy lecture, **Dr. Morris Fishbein** gave the Christian Fenger lecture and **Dr. Walter Bornemeier** gave the Nicholas Senn lecture. In my opinion, the honoring of these great surgeons is an excellent thing to do, for it emphasizes the need for surgeons to recognize the accomplishments of the great men of the past. The lectures that are given in the Hall of Fame each year are built on this philosophy—that if we are to plan well for the future, we must have a knowledge of the experiences of the past.

The entertainment part of our program,

which was enjoyed by the Woman's Auxiliary, was well planned and was participated in by a majority of the members who came to Chicago. A word should be said about the Social Hour that Mr. and Mrs. Speidel give to the members of the College preceding each annual banquet. From an artistic standpoint this surpassed any in our previous experience and the caterers at the Palmer House are to be congratulated.

The Convocation ceremony, on September 17, brought forth a very large class of new members for the College, especially among the Junior members. As I have mentioned, Prof. Friberg's philosophic discussion on medical education was unique. The International College of Surgeons was highly honored by having as its speaker the **Honorable Lister Hill**, senior United States Senator from the State of Alabama. Senator Hill comes from a long line of doctors and his father was a pupil of Lord Lister. So it is not surprising that the Senator was named for Lord Joseph Lister. Senator Hill has been keenly interested in health matters pertaining not only to our own country, but to all the world. He has a firm belief that improving the health of the peoples of the world will go far to bring peace among the nations. He believes that the International College of Surgeons, because of its world-wide surgical membership is in a position to act in the forefront of world health plans. It was on this high note that our Congress ended.

The Honorable Lister Hill
Senior United States Senator From Alabama

It is my hope, also, that in the coming year, the International College of Surgeons, through the establishment of a real Section on Traumatology and Rehabilitation, will be able to establish a like movement in the various national surgical Sections of Europe and other parts of the world.

Ross T. McIntire

INTERNATIONAL COLLEGE OF SURGEONS
GROUP MALPRACTICE INSURANCE PLAN

$200,000, $600,000 Limits of Liability are now available to members covered under the ICS Group Malpractice Insurance Plan.

Please write to John L. Krause, Administrator, 1576 Sherman Avenue, Evanston, Illinois, for rates and further details regarding the Plan.

United States Section

THE PRESIDENT'S MESSAGE

A Surgeon's Philosophy of Life

Dr. Edward L. Compere

This occasion affords me the enviable opportunity of expressing some of my own fundamental beliefs and attitudes without any one of you having an opportunity to reply, if you should happen to disagree with some of the things which I may say.

My father, by precept and example, contributed a very great deal to the formation of my philosophy of life. Countless times he quietly spoke to me, saying, "If we cannot say something good about an acquaintance, we should keep our lips sealed and say nothing at all. We should be very slow to believe a story that smears the character of anyone. Even when the case is proved, we should not repeat the story to others." Sometimes he pointed to the figures of three small monkeys, one with hands over ears, the second with hands over eyes and the third with hands over mouth. This symbol was said to have been Confucius' way of teaching his people that they should not listen to evil things, should not look for the bad in others and above all should not speak ill of their fellows. These are a few basic characteristics which I firmly believe should be part of the philosophy of every honorable and decent person and, certainly, of every surgeon.

Dr. George W. Crane has repeated a story told by one of the old residents of a neighborhood on the West side of Chicago. An elderly man was standing on the street corner watching the cars go by. A tourist car stopped. It contained a man, a wife and several children.

"We're looking for a place to settle down," began the stranger, "so what kind of people do you have in this neighborhood?"

The old man smiled and replied:

"What kind of people did you have in the last place where you lived?"

"Oh, they were the *meanest folks* I ever saw," said the tourist. "They would cheat and gossip about you and never lend you a helping hand for anything."

"Well, that's the kind of folks you'll find here," said the old-timer, sadly.

So the tourist drove onward. But within a few minutes a second car stopped at the curb. It also was loaded with a family migrating from some Eastern city.

"What kind of people do you have in this neighborhood?" asked the driver of the car, as he accosted the old-timer.

"What sort of people did you leave in the last town where you lived?" came the old-timer's reply.

"Oh, they were wonderful folks," said the stranger. "They were kind and neighborly and would give you the shirt off their back."

"Well," said the old-timer with a genial smile, "that's exactly the sort of people you'll find here in this neighborhood."

That was a very shrewd observation, for *life tends to mirror our own outlook.*

You and I, as individuals, have many and varied interests and ambitions. At the time that you completed your postgraduate training in surgery or in one of the surgical specialties, you no doubt, as certainly did I, cherished the ambition to be successful in your career as a surgeon and also to be sufficiently successful financially to be able to support and care for those who were dependent upon you. Most of all, deep in my heart, I wished to so live that I would merit the respect, if not the admiration, of the leaders in the medical profession whom I might have the good fortune to know and of all others who were dedicated to the principle of rendering the very finest possible medical care to each patient. Throughout all of the years of our endeavors, you and I have hoped to find happiness in our work and satisfaction in the way in which we live. This can only be possible if we place the welfare of our patients and of our surgical confreres on a level with our own personal interests. The golden rule of doing unto others as we would have them do unto us, if freely analyzed, would encompass most of the code of living listed in the Ten Commandments compiled by Moses, the great Hebrew philosopher and leader, the oath of Hippocrates, the teaching of Christ, and the prayer of Maimonides. Hippocrates, who is still referred to as the father of medicine, lived and taught one thousand years after Moses, and Maimonides lived more than one thousand years after Hippocrates. Christ, known to Christians as the Great Physician, healed the sick and restored life to some who were dead. My philosophy of life is based upon some of the teaching of each of these great teachers.

Hippocrates, the father of medicine, was born on the island of Cos, off the coast of Asia Minor, in the year 460 B. C. Plato, the great Greek philosopher, was his younger contemporary. Hippocrates taught that we should do nothing that would be harmful to the patients who came to us; that we should treat every woman patient with respect as we would like to have our sisters treated and regarded, and should never take advantage of, or relate to others, anything of a secret nature which we learn from a patient. Thus, we have admonitions regarding what we should not do, as well as about the things which we should do.

This thoughtful statement of the philosophy of his life was contained in a speech delivered by Dr. Compere before the General Assembly of the Twenty-Fourth Annual Congress of the North American Federation of the International College of Surgeons on Wednesday morning, September 16, and constitutes his Presidential Address as head of the United States Section.

Jesus Christ is considered by many millions of people a divine being who walked with and lived among men on this earth. He was also one of the greatest of all philosophers. He taught that we should love our enemies; do good to those who would harm us; care for the widowed and the orphaned; feed the hungry and clothe the naked, and by example taught us to give of our services as physicians and surgeons to those who are in need. All of these precepts should be part of a surgeon's philosophy of life. No man could live up to all of the admonitions of Jesus, but many have tried to include in their own philosophy of life the principles which he taught. If we try to put into practice the idealistic teachings of the great philosophers, we will spread no rumors of evil about any of our fellows; we will not be suspicious of the motives of our confreres, but will believe the best rather than the worst. We will be constantly reminded that "There is so much bad in the best of us and so much good in the worst of us, that it little behooves the rest of us to speak or think ill of any one of us."

I. M. Tarlov recently related the story of William of Occam, a fourteenth-century Franciscan monastic physician, who gave to the world his philosophy of *parsimony,* or as it became known, Occam's razor. Occam taught that it is vain to do with more what can be done with fewer. The routine practice of some physicians to order multiple laboratory procedures to arrive at a diagnosis which could have been made by taking a complete history and making a careful physical examination constitutes one reason for the appallingly high cost of medical care. **Semmes,** the eminent neurosurgeon of our own time, has emphasized this in stating "Diagnostic procedures have multiplied and although each one may be essential at times, they are time-consuming, painful, expensive, and not without danger . . . Only the doctor is in a position to determine what measures are really indicated, and the public has a right to expect of him thoughtful discrimination."

I hope that all of us will take inventory of our own practices and, accepting the philosophy of Occam, resolve to spare our patients the pain, anxiety, and cost of non-essential diagnostic procedures.

Let us be slow to suspect the motives of our confreres. Some of my friends in the surgical profession have been prone to suspect my motives when I have attempted to do something which I believed to be good for the profession of surgery or for my friends or colleagues. There have been those who have been quick to accuse me of being selfish when I was trying to be generous. This has, I am sure, also happened to each of you.

I am proud of my co-workers who are officers, regents, governors or members of the executive council of the International College of Surgeons and who have been subjected to attack from other surgeons but have refused to hit back.

Goethe indicated that his philosophy included something of the Golden Rule. In one of his dissertations, Goethe asks, "Who is the happiest of men?" and he answers, "He who values the merits of others, and in their pleasure takes joy, even as though it were his own." Hanging on the wall of one of the hallways of our offices is a framed copy of the oath and prayer of Maimonides, a physician who lived between the years 1135 and 1204 A. D. This summarizes much of the philosophy which I believe that every surgeon should have.

The good surgeon should be kind, generous, friendly and forgiving. He should never be guilty of any deed which would injure a fellow human being, either morally, physically, or spiritually. He should resolve never to speak ill of a colleague, never to spread rumors that might reflect on the character of another. His philosophy should be based upon the theory that all men are his brothers and that we should ever strive to love our brothers as ourselves. The good surgeon will always work diligently and through investigation and observation increase our knowledge of the art and science of medicine and surgery. He will give generously of his time, energy and money to carry this knowledge of the art and science of surgery to all the people of all the nations in the world. For this is the purpose and the goal for which the International College of Surgeons was founded and to which all who are members are dedicated.

Edward L. Compere

THE OATH AND PRAYER OF MAIMONIDES

THY ETERNAL Providence has appointed me to watch over the life and health of Thy creatures. May the love for my art actuate me at all times; may neither avarice, nor miserliness, nor the thirst for glory, nor for a great reputation engage my mind; for the enemies of Truth and Philanthropy could easily deceive me and make me forgetful of my lofty aim of doing good to Thy Children.

May I never see in the patient anything but a fellow creature in pain.

Grant me strength, time, and opportunity always to correct what I have acquired, always to extend its domain; for knowledge is immense and the spirit of men can extend infinitely to enrich itself daily with new requirements. Today he can discover his errors of yesterday and tomorrow he may obtain a new light on what he thinks himself sure of today.

O God, Thou hast appointed me to watch over the life and death of Thy creatures; here I am ready for my vocation.

And now I turn unto my calling:

O stand by me, my God, in this
truly important task;
Grant me success! For—
Without Thy loving counsel and
support,
Man can avail but naught.
Inspire me with true love for
this my art
And for Thy creatures,
O, grant—
That neither greed for gain,
nor thirst for fame, nor vain
ambition,
May interfere with my activity.
For these I know are enemies of
Truth and Love of men,
And might beguile one in profession
from furthering the welfare of
Thy creatures.
O strengthen me.
Grant energy unto both body
and the soul
That I might e'er unhindered
ready be
To mitigate the woes,
Sustain and help
The rich and poor, the good and
bad, enemy and friend.
O let me e'er behold in the afflicted and suffering,
Only the human being.

This is the Prayer of Maimonides!

News Briefs

WESTERN REGIONAL MEETING SCHEDULED FOR NOVEMBER IN LAS VEGAS

The Second Annual Western Regional Meeting of the United States Section of the International College of Surgeons will be held at the Stardust Hotel and at the Coliseum in Las Vegas, Nevada, November 22-24.

An excellent scientific program is being planned with many outstanding speakers. Registration will take place on Sunday, November 22. Scientific sessions will begin Monday morning and continue through Tuesday. **Dr. J. Norman O'Neill**, of Los Angeles, California, is chairman of the program committee.

The registration fee is thirty-five dollars and includes the cost of the banquet and the social hour. There is no registration fee for interns and residents. For hotel reservations please address the hotel. For information please write **F. M. Turnbull, Jr., M.D.**, 1930 Wilshire Blvd., Los Angeles 57, California.

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Woman's Auxiliary

THE PRESIDENT'S MESSAGE

A Legacy

Mrs. Park Niceley

It is with a feeling of humility that I find myself in the role of president of the Woman's Auxiliary to the United States Section of the International College of Surgeons. To follow along in the steps of our previous presidents is a challenge.

To Mrs. **Walter Cleveland Burket**, our first president, were entrusted the goals, desires and high hopes held for the future of the infant organization. Under her charming and capable leadership, the Auxiliary indeed became firmly established.

Succeeding our first president, Mrs. **Clifton L. Dance** endeavored with determination and zest to pursue and further the objectives of the Auxiliary.

Mrs. **Earl Ingram Carr**, my immediate predecessor, has wholeheartedly and with great enthusiasm enhanced the prestige of the Auxiliary as an outstanding group of women.

As one will readily agree, I have received from these ladies a legacy of ever upholding the purposes and services that the Auxiliary's "founding fathers," Dr. Max Thorek and the late Dr. Herbert Acuff, had in mind eight years ago when the organization became a reality.

We are unique in our role. We are not only the Auxiliary to the United States Section, but we participate in a very splendid way in the activities and life of the International College of Surgeons.

The activities of our Auxiliary that definitely evidence our medical world-mindedness are the foreign exchange scholarships and the scientific grants. These are supported solely by the payment of membership dues.

We are truly a select group, for we were chosen by our surgeon husbands not only to love them but also to love their profession. This we can do to the fullest by becoming members of the Woman's Auxiliary and participating in its activities.

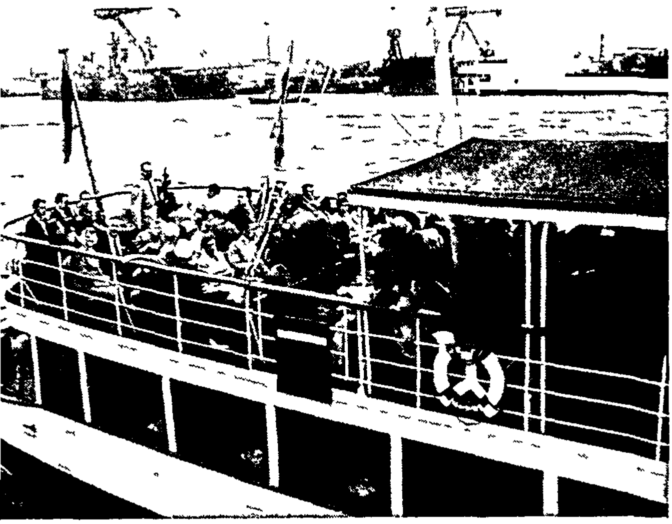
Our heritage is an inspiration, and our goal is the advancement of international good will among men of all nations.

Virginia Whisman Niceley

Mrs. Niceley, Mrs. Earl Ingram Carr, her immediate predecessor, and Mrs. Virgil T. DeVault, president-elect

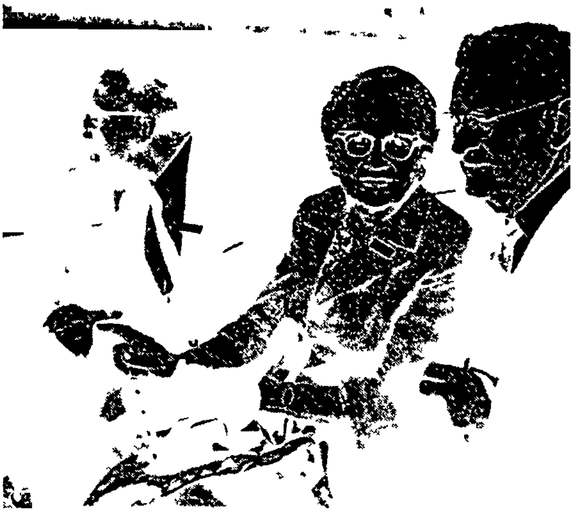
Congress of German-Speaking Sections of European Federation

Above: Among the representatives of the German-Speaking Sections of the European Federation of the International College of Surgeons present at the Congress held in Hamburg, June 1-3, 1959, were Prof. Ruding of the Netherlands, Prof. A. W. Fischer and Prof. Zuckschwerdt of Germany and Prof. Oltramare of Switzerland



Above: Motor launch on which congressists enjoyed a festive excursion

Below: Participants from the United States and their ladies included Dr. and Mrs. John C. Turner and Dr. and Mrs. William Wickman of Miami, Florida



Below: Photographed at one of the brilliant scientific sessions of the Congress, in the front row, Prof. Ruding of the Netherlands, Prof. E. Kaiser, president of the Swiss Section, and Prof. A. W. Fischer, president of the German Section; in the back row, Prof. Zuckschwerdt and Prof. Karl Horatz, both of Germany

Section News

BELGIUM

Dr. Léopold Lambert
President, Belgian Section

The Belgian Section of the International College of Surgeons will hold its annual Surgical Week End, November 14-15, at Bruges.

The meeting is under the auspices of His Excellency, the Minister of Health, and the organizing committee cordially extends an invitation to all who may be interested to attend the meeting and participate in the program.

The two days of activity are subdivided into six sections, in which the following subjects will be treated:

DIGESTIVE SURGERY
  Surgical Treatment of Chronic Pancreatic Inflammation
NEUROSURGERY
  The Possibilities of Neurosurgery in the Treatment of Pain and of Abnormal Movements
THORACIC SURGERY
  Congenial Atresia of the Gullet
ORTHOPEDIC SURGERY
  Surgical Treatment of the Patella
GYNECOLOGIC SURGERY
  Surgical Treatment of the Fallopian Tube
CIRCULATORY SURGERY
  Surgical Treatment of Arterial Obstruction

Distinguished surgeons from abroad will initiate the presentations in the several sections, and Belgian colleagues will recount their own personal experiences. Each formal session will be followed by a discussion period, during which four or five colleagues will be called upon to speak, by preference those who will have enrolled before October 15.

On Sunday, November 15, at 10:30 in the morning, an Academic Session will be held, honored by the presence of civil, religious and medical authorities. Prof. Jean Creyssel of Lyon, president of the Syndicate of Doctors and Specialists of French Hospitals and president of the French Section of the International College of Surgeons, will deal with a subject the importance of which is evident to all, namely, *The Future of Surgery in Europe in Connection With Technical and Social Evolution.*

Other essayists whose participation is assured include:

Dr. A. Trillat, Lyon
Prof. Dr. I. S. Smillie, Dundee, Scotland
Dr. J. Mazars, Paris
Prof. J. Lepoire, Nancy
Dr. G. Guyot, Paris
Dr. A. Gründemann, Amsterdam
Prof. Vandecasteel, Lille
Dr. J. Buisseret, Brussels
Dr. Lampert, Liège
Mr. Green-Armytage, London
Dr. Palmer, Paris
Dr. Hepp, Paris
Dr. Arianoff, Brussels
Dr. J. Kunlin, Paris

Dr. Leopold Lambert is chairman and Dr. Sondervorst general secretary of the committee of the Belgian Section. The arrangements committee has as its chairman Dr. Van den Eynde and as its general secretary Dr. Joos, Elisabethlaan 90. Knokke.

CANADA

First Meeting of Women's Auxiliary Pays Tribute to Memory of Gwendolyn Parker Appleby

The first meeting of the recently incorporated Women's Auxiliary to the Canadian Section of the International College of Surgeons was held at the Park Plaza Hotel in Toronto, Ontario, on Friday, September 11, 1959.

It was an organizational meeting, and dealt with such matters as enrollment and registration of members, appointment of directors and auditors, fixing the annual dues and adopting the seal of the Auxiliary.

The Auxiliary is a completely Canadian organization and its prime function is to assist the Canadian Section of the College in carrying out its objectives.

Gwendolyn Parker Appleby

The meeting paid tribute to the memory of Gwendolyn Parker Appleby, wife of Dr. Lyon H. Appleby of Vancouver. Mrs. Appleby, together with June Dorian Pinkerton (Mrs. Edwin Karley) and Flora Winnifred McAmmond (Mrs. E. N. C.), was instrumental in incorporating the Auxiliary. Mrs. Appleby's sudden death, on June 28, brought a heavy burden of sorrow to all who knew her, and particularly to the women of the Auxilary.

Mrs. Appleby was born at Manila, in the Philippines; and was the daughter of Admiral Winthrop W. Simms of the United States Navy. She came to Vancouver thirty years ago to study, and was graduated from St. Paul's School of Nursing.

In 1932 she was married to Dr. Appleby. A son, Peter, and a daughter, Wendy, who now lives in San Francisco, were born to them.

Mrs. Appleby was an honorary vice-president of the Woman's Auxiliary to the International College of Surgeons and a member of the Georgian Club.

IRAN

Fourth National Congress

The Fourth National Congress of the Iranian Section of the International College of Surgeons was held on April 12-15, 1959, at the School of Medicine of the University of Shiraz, Iran, and the following officers were elected:

PRESIDENT
Dr. M. Pezechcan, F.I.C.S.
PRESIDENT-ELECT
Dr. Said-Malek, F.I.C.S. (Hon.)

VICE-PRESIDENTS
Dr. H. Alavi, F.I.C.S.
Brig. Gen. Dr. F. Daftari, F.I.C.S.
Dr. A. Habibi, F.I.C.S.
Dr. H. Hashemian, F.R.C.S., F.I.C.S.
Maj. Gen. Dr. M. Nadjaf-Zadeh, F.I.C.S.

TREASURER
Dr. N. Ameli, F.R.C.S., F.I.C.S.
ASSISTANT TREASURER
Dr. D. Kazemi, A.C.C.P., A.I.C.S., A.T
SECRETARY
Dr. E. Hazrati, F.I.C.S.

SCIENTIFIC SESSIONS

SUNDAY, APRIL 12

Inauguration Address
DR. GHORBAN, President of the University of Shiraz

Annual Report of the Section
DR. E. HAZRATI, Major M.C., F.I.C.S., Secretary of the Iranian Section of the International College of Surgeons

Surgical Conferences
Presiding:
DR. H. A. REIMANN, Chief of Medical Department, Shiraz Medical Center

Twenty-seven Years' Experience in Medical and Surgical Treatment of Sterility
DR. G. H. MOSSADEGH, F.I.C.S., Professor of Obstetrics, University of Teheran

Enterobius Vermicularis Granuloma of the Pelvic Region
DR. JAMES E. BOWMAN, Chief Pathologist, Shiraz Medical Center
DR. GORDON C. CAMPBELL, Former Associate Gynecologist, Shiraz Medical Center

Important Points in the Anatomy of the Pelvic Region
DR. C. TORPIN, F.I.C.S. (U.S. Section), Chief of Gynecology Department, Shiraz Medical Center

Twelve Methods in the Surgical Tre
of Sterility
Movie Projection

Congenital Deformities of the Foot
DR. A. MOSHIRI, Orthopedic Surgeon,
Medical Center

MONDAY, APRIL 13

Presiding
DR. G. H. MOSSADEGH, F.I.C.S., Profe
Obstetrics, University of Teheran

Hemicerebrectomy
DR. N. AMELI, F.R.C.S., F.I.C.S., P
of Neurosurgery, University of

Biochemical Changes in Head Injurie
PROF. B. HUGHES, F.R.C.S., Profe
Neurosurgery, University of Birmi
England

Periodic Peritonitis
DR. H. A. REIMANN, Chief of the
Department, Shiraz Medical Cente

Intrapleural Rupture of Subdiaphr
Infections
DR. M. SADRIEH, A.I.C.S., Professor
gery, University of Shiraz

Dr. G. H. Mossadegh
Vice-President
Iranian Section

Dr. Ghorban
President
University of Shiraz

Dr. E. Hazrati
Secretary
Iranian Section

A Report on Unusual Lesions of the Pancreas

Dr. R. Kegel, Chief Radiologist, Shiraz Medical Center

Dr. A. Fatemi, Associate Radiologist, Shiraz Medical Center

The Use of Transcutaneous Hepatic Cholangiography in Diagnosis and Management of Jaundices

Dr. R. Farid, A.I.C.S., Gastrointestinal Surgeon, Teheran

Lipoid Pneumonia

Dr. S. Sarkissian, F.R.C.S., F.I.C.S., Surgeon, Cancer Institute, University of Teheran

TUESDAY, APRIL 14

Presiding

Dr. N. Ameli, F.R.C.S., F.I.C.S.

Surgery of Portal Hypertension: Our Experience

Dr. J. Nouri, F.I.C.S., Associate, Department of Surgery, Shiraz Medical Center

The Results of One Hundred Cases of Cardiotomy

Dr. D. Kazemi, A.I.C.S., A.T.S., A.C.C.P., Thoracic Surgeon, Teheran

Foreign Bodies in the Esophagus and their Esophagoscopic Removal

Dr. J. Hedayaty, F.I.C.S., Surgeon, Amir-Aalam Hospital, Teheran

Report of a Case of Plunging Goiter

Dr. A. Shaky, A.I.C.S., Chief of Surgical Department, Abou-Hossein Hospital, Teheran

Emergency Lobectomy in Hemoptysis

Dr. A. A. Azim-Zadeh, A.I.C.S., Chief of Department of Surgery, Shah-Abad Sanatorium, Teheran

Rare Cases of Diaphragmatic Hernia

Dr. D. Kazemi, A.I.C.S., A.T.S., A.C.C.P., Thoracic Surgeon, Teheran

WEDNESDAY, APRIL 15

Presiding

Maj. General M. Nadaf-Zadeh, M.C., F.I.C.S., Assistant Surgeon-General, Chief Surgeon of the Iranian Army Medical Corps

Tonsillo-Adenoidectomy in Children under General Anesthesia

Dr. J. Hedayaty, F.I.C.S., Surgeon, Amir-Aalam Hospital, Teheran

Keratoplasty

Dr. B. Sotoodeh, F.I.C.S. (U.S. Section), Ophthalmologist and Otorhinolaryngologist, San Antonio, Texas

A New Technique in the Surgical Treatment of Prolapsed Uterus

Dr. M. Seifi, Professor of Gynecology, University of Shiraz

Surgical Repair of Burns of the Neck

Dr. A. Navabi, Chief of Plastic Surgery Department, Firouz-Abadi Hospital, Teheran

The Use of Skin Pedicled Flaps

Dr. E. Hazrati, Major M.C., F.I.C.S., Chief of Plastic and Maxillofacial Surgery Service, Army Hospital No. 1, Teheran

The Influence and Penetration of Western Medicine in Iran

Dr. M. Nadjmabadi, Member of the International Society of History of Medicine, Member of the Medical Board of the Iranian Academy

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DIRECTOR

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Presented During the Month of
NOVEMBER 1959

Medical News Front

ASSOCIATION OF MILITARY SURGEONS TO CONVENE

The Sixty-Sixth Annual Convention of the Association of Military Surgeons will meet at the Mayflower Hotel in Washington, D.C., November 9-11, 1959.

The theme of the meeting will be *Practice of Military Medicine — Broadening Concepts.* **Major General Harold H. Twitchell**, U.S.A.F., M.C., president of the Association, will deliver the opening address.

EDUCATIONAL COUNCIL FOR FOREIGN MEDICAL GRADUATES

The Educational Council for Foreign Medical Graduates is rapidly expanding its staff and services in order to meet the steadily increasing demands being made upon it. The services are informational, evaluative and certifying, and are useful not only to the medical graduates of foreign countries, but helpful to hospitals in the United States.

The rapidly growing hospitals in the United States have developed nearly twice as many approved internships as are needed to accommodate the less than seven thousand seniors graduating from United States medical schools. There are, therefore, approximately seven thousand and six hundred foreign medical graduates serving as interns or residents in United States hospitals who are in possession of exchange visitor visas and another thousand who have immigrant visas.

TURKISH REPUBLIC ESTABLISHES COLLEGE OF NURSING

The foundation stone has been laid in Istanbul, Turkey, for the Florence Nightingale College of Nursing and Hospital.

The ceremony took place on April 28, 1959.

EIGHTH CHILEAN CONGRESS OF OBSTETRICS AND GYNECOLOGY

The Eighth Chilean Congress of Obstetrics and Gynecology will meet in Santiago November 22-26.

Dr. Aníbal Rodríguez V., Chile, and **Prof. Juan Crottogini**, Uruguay, will head the essayists on *Geriatric Surgery in Gynecology.*

Drs. Sergio Fuenzalida T. and **Alberto Guzmán**, Chile, and **Prof. Guillermo di Paola**, Argentina, will lead the discussion of *Non-Neoplastic Cysts of the Ovaries.*

Dr. Héctor Cabrera, Chile, and **Prof. Julio C. Pereira**, Argentina, will present papers on *Static Dilation of the Cervix.*

Maternal and Perinatal Mortality will be the subject discussed by **Dr. Orlando Trivelli R.**, Chile, and the *Cervical Factor in Sterility* will be presented by **Dr. Amalia Ernst**, Chile.

Dr. Luis Tisné Brousse is the president and **Dr. Eduardo Valenzuela S.** is the secretary general of the Congress.

ADOLPH KROCH, FRIEND OF DOCTORS, HEADS HOSPITAL BOARD IN CALIFORNIA

Mr. Adolph Kroch, internationally known as a prominent citizen and bookseller of Chicago, has retired to California. His contact with the medical men among his distinguished clientele, which included writers, artists and discriminating and socially aware people in general, has resulted in his acceptance of the presidency of the South Coast Community Hospital and, upon the expiration of the term of that office, the chairmanship of the board and of the professional committee.

His service to this greatly needed project has been arduous—but successful—in the spirit of dedicated creativity which is Mr. Kroch's essential characteristic.

International College of Surgeons

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Re: Membership Directory

Dear Doctor:

We are preparing a Directory of the membership of the International College of Surgeons in the United States and the rest of the world. This will include also the Constitution and Bylaws of the College, information on qualifications for membership, a description of the activities of the College, as well as a full list of members, alphabetically and regionally arranged, with pertinent information about each member.

The publication of this Directory will entail an expense to the College of between 25 and 30 thousand dollars. The material is now being prepared for the printers, and we are soliciting your subscription for a copy of this handy and informative volume.

The pre-publication price for a copy of this important book is $5.50 — after publication $7.50.

We would appreciate your cooperation. Please return the attached subscription blank in the enclosed self-addressed envelope, and oblige

Yours sincerely,
PUBLICATIONS COMMITTEE
INTERNATIONAL COLLEGE OF SURGEONS

Dr. Max Thorek, Editor

- -

Directory Department
International College of Surgeons
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In Memoriam

JAMES J. MORROW
M.D., F.I.C.S.
1898-1959

James J. Morrow
M.D., F.I.C.S.

The United States Section of The International College of Surgeons has lost a most loyal and devoted Qualified Fellow in the sudden death of Dr. James J. Morrow of North Hollywood, California. He passed away in his sleep at home on the morning of June 11, 1959.

He was a proud native of Minnesota, graduating from the Medical School of the University of Minnesota in 1924, and for eighteen years was a prominent member of the medical profession in Austin, Minnesota.

He served with distinction in both World Wars. In World War I, Dr. Morrow was one of the original founders of The American Legion at the historic organizational meeting in Paris, France, on March 17, 1919. During World War II, he served on the staff of General Douglas MacArthur in the Southwest Pacific theatre. He held the rank of colonel in the Army Medical Reserve Corps.

After World War II, like so many other servicemen, Dr. Morrow decided to forsake the frigid wintry blasts of Minnesota and live in southern California. He established a consulting surgical practice in the Toluca Lake District of the San Fernando Valley.

In the fifteen years we were privileged to know Dr. Morrow here in southern California, he made a host of friends both among the laity and in the profession. He served with great distinction both as a former chief-of-staff of St. Joseph's Hospital in Burbank and as the immediate past-president of the Hollywood Academy of Medicine.

Dr. Morrow was the recognized dean of surgery throughout the San Fernando Valley. His diagnostic consultations and his superlative surgical skill were in constant demand by his colleagues. He gave unselfishly of himself so that his fellow man might enjoy prolonged health and happiness. He truly was a doctor's doctor. He was a most able and articulate champion of medicine's role in the present-day world with its many complex problems. The young doctor always found Dr. Morrow both a sympathetic friend and a staunch ally.

Dr. James J. Morrow made an indelible impression upon the hearts of all of us who were privileged to have shared his friendship and to have worked beside him.

The United States Section of The International College of Surgeons extends its deepest sympathy to Dr. Morrow's beloved wife Hazel and his family.

Donald C. Collins
Past Regent for California
Past Vice-President, U.S. Section

In Memoriam

KENNETH S. HUNT
M.D., F.I.C.S.
1890-1959

Dr. Kenneth S. Hunt, F.I.C.S., of Griffin, Georgia, a prominent surgeon in his community, died on July 28, 1959.

Dr. Hunt was born in Milner, Georgia, September 14, 1890. He attended Milner High School and Gordon College at Barnesville, Georgia. He received his M.D. degree from Vanderbilt University School of Medicine in Nashville, Tennessee, in 1915. He served an internship at Macon Hospital, Macon, Georgia, and surgical residencies at Vassar Brothers Hospital in Poughkeepsie, New York, and the Sloane Hospital for Women in New York City.

In 1918, as a first lieutenant in the medical corps, he went overseas with the New York National Guard, which was attached to the Twenty-Seventh Division, and spent thirteen months abroad.

Dr. Hunt began his practice of medicine in Griffin in 1919, opening, during the following year, the Strickland Memorial Hospital, a private hospital which served the community until 1950. For many years he was chief of surgery and chief of staff at the Griffin Spalding County Hospital, and in 1936 organized and became the president of the Griffin Hospital Care Insurance program.

He belonged to his county and state medical societies, was a Fellow of the Southeastern Surgical Congress, a member of the Georgia Urological Association and a Fellow of the International College of Surgeons.

Dr. Hunt was active in many fields. He was president of the board of education from 1947 until his death. He was a trustee of Gordon Military College and a member of several civic, religious and benevolent associations. In 1956, in recognition of his long and outstanding service and leadership in Griffin and Spalding counties, he was named by the Griffin Exchange Club as Man of the Year.

Kenneth S. Hunt
M.D., F.I.C.S.

Dr. Hunt is survived by his wife, Mrs. Elizabeth Everett Hunt; two sons, Kenneth Stovall Hunt, Jr., of San Antonio, Texas, and Dr. Thomas Jefferson Hunt of Atlanta, Georgia; two daughters, Mrs. Virgina Bushman and Mrs. Sue Ann Powers; four grandchildren, Julie, Elizabeth, Kim and Jeff Hunt; and three sisters, Mrs. Frank Hacker of Rutherford, New Jersey, Mrs. James R. Ivey of Milner, Georgia, and Mrs. P. W. Moore of Maryville, Tennessee.

The officers, speaking for the membership of the College, extend to all the family their sincere sympathy.

Tofey G. Smaha
M.D., F.I.C.S.
GRIFFIN, GEORGIA

In Memoriam

MICHAEL J. STEC
M.D., A.I.C.S.
1899-1959

Michael J. Stec
M.D., A.I.C.S.

Dr. Michael J. Stec, A.I.C.S., of Scranton, Pennsylvania, died suddenly on June 26, 1959.

Dr. Stec was born in Mahanoy Plane, Pennsylvania. He attended the Shenandoah High School and the Pennsylvania State College, graduating with the degree of B.S. He then studied medicine at Jefferson Medical College in Philadelphia and received his M.D. degree in 1925. He pursued postgraduate studies at the University of Vienna and at Cornell Medical Center in New York City.

He had served his internship at Scranton State Hospital, and then established his practice in the city which was to remain his home for all these years, and where he was to build for himself ties of friendship and association with numerous surgical, civic and religious groups.

Dr. Stec was chief of orthopedic service at State Hospital and a staff member at Mercy and St. Mary's Hospitals.

Dr. and Mrs. Stec, the former Miss Julia Skweir, to whom he was married in 1925, were inveterate travelers. During twenty-five years they had made trips to all parts of the world. Last year they were with the around-the-world postgraduate clinic tour sponsored by the International College of Surgeons, and they also had completed arrangements for joining this summer's European postgraduate trip. They were greatly missed on the journey, and all their former tour companions were shocked by news of Dr. Stec's sudden death. He had always been so active it was difficult to realize that it could have happened.

Dr. Stec is survived, in addition to Mrs. Stec, by his father, by a son and a daughter, and by a large family of brothers and sisters. His son, Dr. Eugene G. Stec, was associated in practice with his father, and his daughter, Miss Romaine Stec, is an art historian and teacher. An instructor at Marywood College, she is currently on leave and studying for a doctorate in the history of art at the Yale University Graduate School.

The officers and all Dr. Stec's good friends in the College extend to Mrs. Stec and her family their very sincere sympathy.

* * *

WOMAN'S AUXILIARY MEMORIAL FUND

Send checks payable "Memorial Fund"

Mrs. Robert Le Sage, Chairman, Shores Acre, Dixon, Illinois

FOUNDED BY DR. MAX THOREK

The Journal of the International College of Surgeons

FOUNDED IN GENEVA, SWITZERLAND, 1935 - INCORPORATED IN WASHINGTON, D. C., 1940

Vol. 32 NOVEMBER, 1959 No. 5

General Surgery

Hodgkin's Disease of the Cecum

Report of a Case

WALTER A. D'ALONZO, B.S., M.D., M.S. (Surg.),
F.A.C.S., F.I.C.S., D.A.B.*
PHILADELPHIA, PENNSYLVANIA

HODGKIN'S disease is of unknown cause and usually presents as an enlargement of superficial or mediastinal lymph nodes. The wide variation of organs involved and, therefore, of the symptoms, has long been recognized, and the gastrointestinal tract is by no means spared this involvement. Not infrequently the alimentary tract is involved secondarily and rather late in the course of generalized Hodgkin's disease. Much less frequently the disease originates in the gastrointestinal tract itself, either as a single focus or in several areas. This

Hodgkin's disease may occur in the gastrointestinal tract, though its primary occurrence in the cecum is rare and may be confused grossly, at the operating table, with carcinoma.

The author reviews the literature on Hodgkin's disease of the gastrointestinal tract in general, with special emphasis on the cecum. He reports a case in which Hodgkin's disease was first manifested in the cecum and clinically resembled appendicitis.

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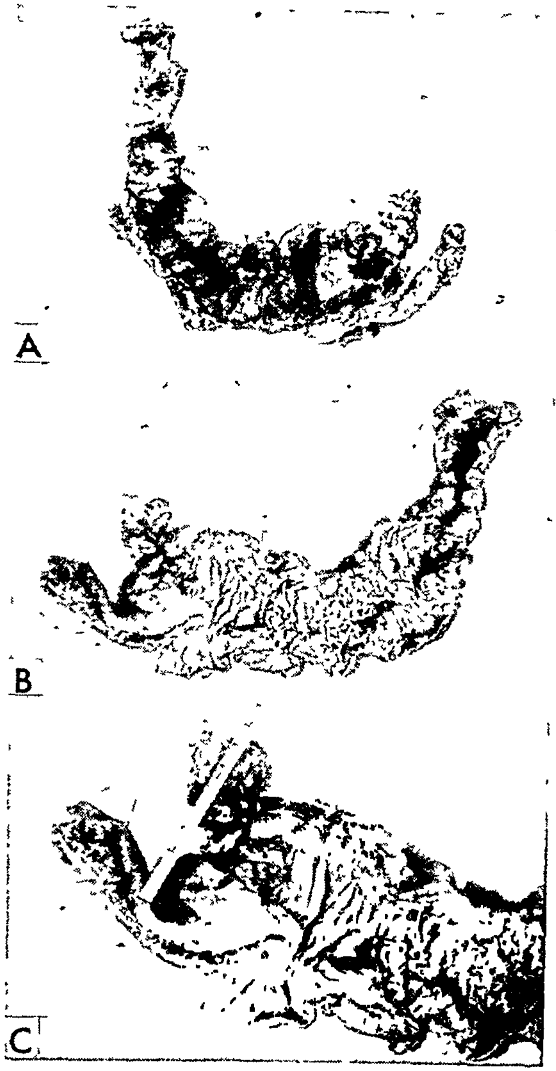

Fig. 1.—*A*, gross specimen, showing terminal portion of ileum, appendix and right half of colon. *B*, specimen opened, revealing lesion in cecum. *C*, closer view of lesion, with lymph nodes.

paper deals with Hodgkin's disease, localized in the cecum, and a case is presented in which the condition clinically resembled appendicitis.

Hess[1] in 1907 described a case of Hodgkin's granuloma in the large bowel, localized in the sigmoid flexure and the rectum, with multiple small submucous nodules, some of which were slightly eroded. There were also enlargement of the mediastinal lymph nodes, general lymphadenopathy, amyloidosis of the liver and an enlarged spleen. Histologically the lymph nodes and spleen revealed the presence of Dorothy Reed-Sternberg cells, but unfortunately there was no mention of a microscopic examination of lesions in the sigmoid or rectum. In 1913 Schlagenhaufer[2] reported the first case of microscopically proved gastrointestinal localization of Hodgkin's disease. Hayden and Apfelbach,[3] in 1927, reported the only sizable series of gastrointestinal Hodgkin's disease in which there were 26 cases of this type, although all varieties of lymphoma were included.

In recent years gastrointestinal lesions caused by Hodgkin's disease have been reported with increasing frequency. Hodgkin's disease of the gastrointestinal tract is most commonly localized in the lower part of the ileum, in the area of Peyer's patches, just proximal to the ileocecal valve.[4] Localization of Hodgkin's disease in the cecum, with or without generalized involvement of other organs, has rarely been reported.

Incidence.—A careful study of all reported cases of Hodgkin's disease of the cecum emphasizes the rarity of this location. Lame and others[5] noted that 2,090 of the malignant tumors of the stomach and 50 per cent of the malignant tumors of the small intestine in their series were lymphomas, an unusually high incidence. In none of their 22 reported cases of lymphoma, however, was the tumor localized in the cecum. Symmers[6] reported that, in a series of 173 necropsies of patients with Hodgkin's disease, not one example of involvement of the gastrointestinal tract was observed. Migliaccio and Pahigian[7] reviewed the material on gastrointestinal neoplasms over a period of twenty years. They noted 1,490 cases of adenocarcinoma and 36 cases of Hodgkin's disease, but in none of the latter was there involvement of the cecum. In a study of 174 cases of Hodgkin's disease, Jackson and Parker[8]

Author	*Lesion*	*Symptoms*	*Comment*
Pisseru (Case 1)	Infiltration of cecum	Five attacks of "appendicitis" in 2 years	Appendectomy; postoperative death
Braine	Infiltration of cecum	Pain and mass in right lower quadrant of abdomen	Resection; well 4 years later
Pilotelos	Infiltration of cecum	Clinical diagnosis: "Acute appendicitis"	Appendectomy; postoperative death

ollected 9 cases of gastrointestinal involvement; in none of them was the condiion localized in the cecum. A review of he work reported by Martin[9] on a series f 19 cases of lymphoma revealed only 1 ase in which the tumor was localized in he cecum. This report is based on Malory's classification, which does not disinguish between Hodgkin's disease, lymphogranuloma, lymphosarcoma, leukemia or aleukemia, but uses the designation "malignant lymphoma" for all these diseases. A case was reported in the French literature by Roger Ricoux[10] in which the patient had a large tumor mass in the cecum, which was resected and microscopically proved to be Hodgkin's disease. The patient was well one year after undergoing operation.

A review of the literature by Portmann, Dunne and Hazard[11] reported only 3 cases of Hodgkin's disease of the cecum (see accompanying table).

Pathogenesis.—Coronini[12] discussed the differences of opinion concerning the histogenesis of gastrointestinal Hodgkin's disease. Eberstadt[13] defended the theory that this localization results from primary nodular infiltration of the lymphoid tissue of the submucosa, which then protrudes into the lumen or invades the other layers of the bowel. Hauck,[14] Ceelen[15] and Rabinowitsch expressed the opinion that the process may reach the intestinal tract by direct extension from the involved mesentery or by retrograde lymphatic transport from the mesenteric nodes. Siegmund's detection[16] of the isolated granulomatous lesions in the submucosa supports Eberstadt's hypothesis.

Pathologic Picture.—Many of the articles dealing with this subject are difficult to appraise, because of the tendency to classify the tumors according to their histologic pattern. For example, one author will be concerned with Hodgkin's disease of the gastrointestinal tract, another with lymphomyosarcoma, still another with reticulum cell sarcoma, and so on. It is best to approach the problem by regarding the entire group as a single neoplastic entity under the heading of malignant lymphoma, to include the following types: follicular lymphocytic, reticulum cell and Hodgkin's disease. As outlined by Jackson and Parker,[17] Hodgkin's lymphoma is divisible into three subgroups: paragranuloma, granuloma and sarcoma. For the most part, however, the various individual members of this family behave clinically in much the same fashion. Furthermore, the histologic pattern of a given tumor is anything but static. Custer and Bernhard[18] and Custer[19] have shown that a significantly high percentage of lymphomas undergo a complete change in their cellular structure.

Gross Pathologic Picture.—The gross appearance is often well defined. Lymphoid tumors, in whatever part of the body they may occur, grow along lines of least resistance to an extent not observed in other malignant growths. As a result, tissues are separated along cleavage planes, thus accentuating different structures, such as mucosa, submucosa, and muscularis, and producing fairly uniform, diffuse enlargement of the part invaded. It is only later, when the growth is more exuberant and normal barriers have been broken down by pressure of the proliferating tumor cells, that structures are obliterated and necrosis occurs. Two main types of growth are observed in lymphoid tumors of the gastrointestinal tract: (1) a diffuse growth involving a part of an organ, and causing fairly uniform, diffuse thickening, sometimes with discrete tumors here and there, with or without ulceration, and (2) a large solitary tumor, usually with deep ulceration or, rather, cavitation. Rarely, polypoid forms of the tumor are seen.

The serosa is not invaded or distorted by lymphoid tumor except in rare cases when the tumor is very large. An extensive tumor that does not greatly distort the organ or involve the serosa is very likely to be of the lymphoid type.

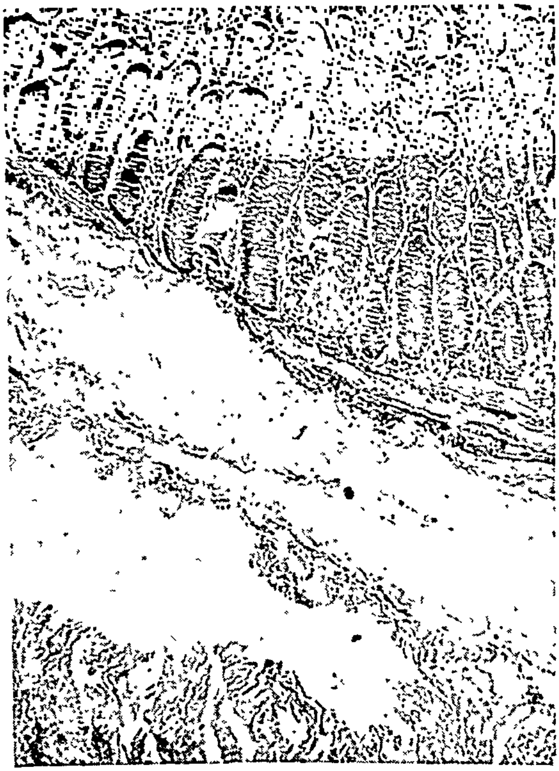

Fig. 2.—Microscopic section, showing colonic mucosa at end of lesion.

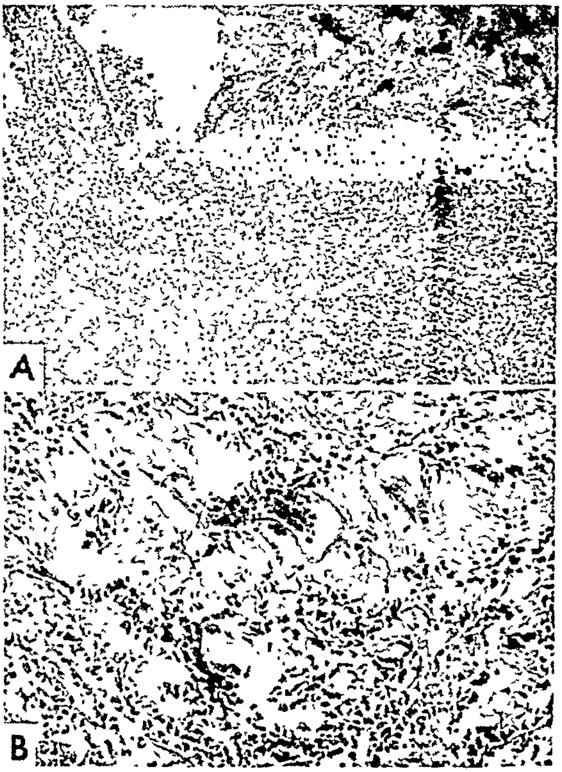

Fig. 3.—*A*, ulceration into submucosa and muscularis of colon. *B*, Reed-Sternberg cells visible below submucosa.

Lymphoid tumors usually are succulent and more resilient than most carcinomas, although Hodgkin's disease may present a very firm, fibrous structure. The tumors are rarely recognized when they are small, and when first observed are usually much larger than carcinomas.

Other lesions having gross features in common with lymphoid tumors are diffuse carcinoma simplex; leiomyoma and leiomyosarcoma, and a diffuse inflammatory change such as cicatrizing enteritis. Diffuse carcinoma simplex, fairly commonly observed in the stomach but rare in other parts of the intestinal tract, may cause a uniform thickening of the wall, separating without distorting the structural units in a similar manner, with the difference that

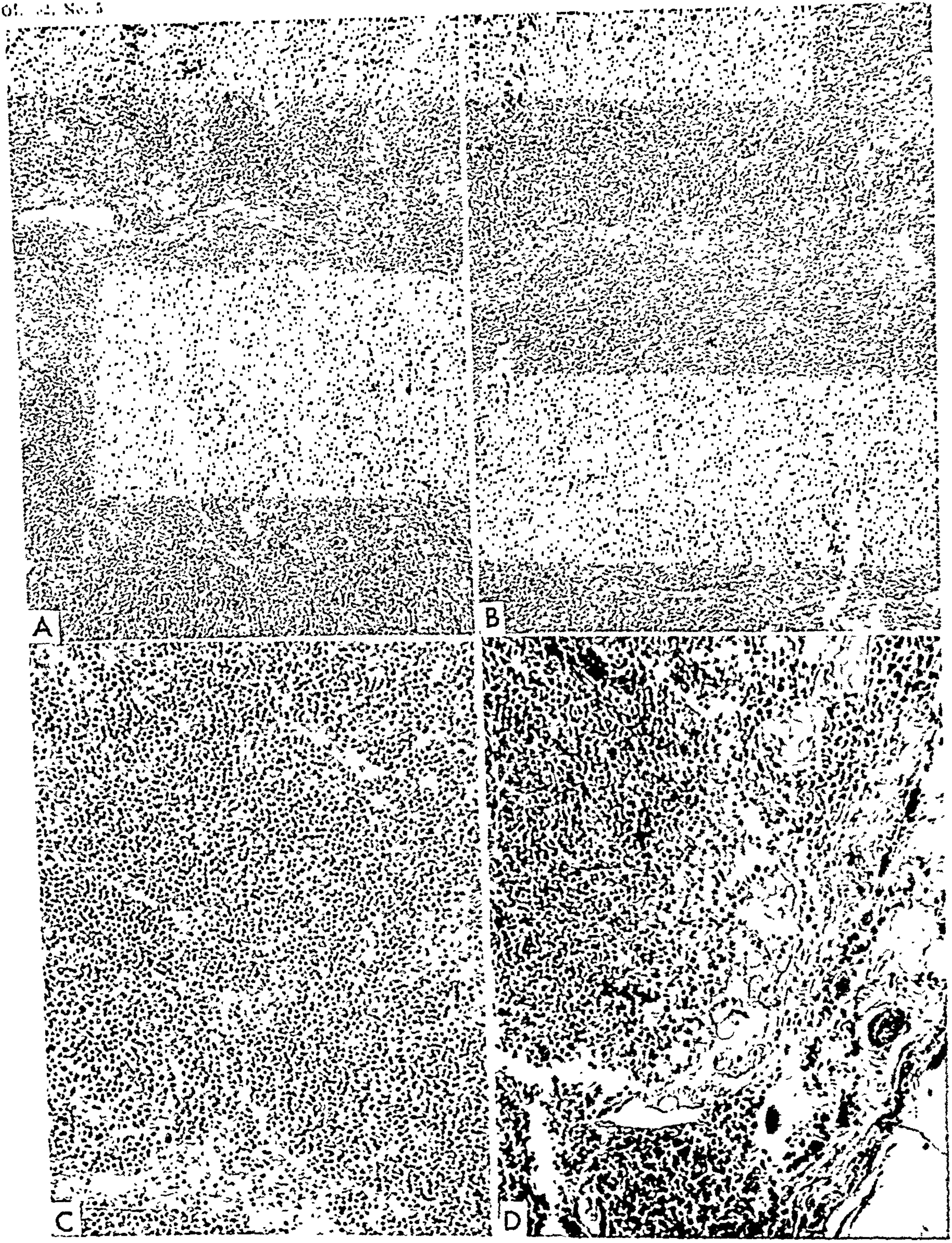

Fig. 4.—*A*, mesenteric lymph node showing involvement. *B*, caseoid necrosis of mesenteric lymph node. *C*, normal mesenteric lymph node with infiltration of eosinophils. *D*, section of appendix with no involvement in disease. Plasma cells are prevalent.

this type of carcinoma produces a rigid, contrasted organ and is frequently mucus-secreting.

Most inflammatory conditions are easily distinguished from lymphoid tumors, but cicatrizing enteritis (regional enteritis) may cause diffuse uniform thickening without loss of structure.

A large, globular lymphoid tumor may resemble leiomyoma or leiomyosarcoma. The benign and malignant forms of smooth muscle tumors are rarely encountered in the gastrointestinal tract, but are somewhat more common in the stomach than elsewhere. Such a tumor usually presents as a discrete, rounded, resilient mass, either intrinsic in the wall or pedunculated toward the mucous or serous surface. Even when the histologic structure is fairly suggestive of a malignant tumor, the growth tends to be delineated rather than invasive. Necrosis, ulceration and rapid growth are the usual signs of malignancy. Lymphoid tumors, though expansive, do not often become pedunculated.

It is important to determine whether or not the tumor is part of a generalized disease. This problem is more important with the small bowel, where secondary, lymphoid tumors are more commonly observed. The most helpful consideration is the infrequency of secondary tumors in the small bowel without large metastases in either the mesenteric or the retroperitoneal lymph nodes. Secondary lymphoid tumors are less common in the stomach and large bowel and practically never reach the size of the usual primary lymphoid tumor.

Age and Sex Incidence.—Just as in the case of its commoner localizations, Hodgkin's disease of the cecum occurs chiefly in the third decade of life (20 to 29 years of age).[20] The frequency is the same in men as in women.[21]

Signs and Symptoms.—The clinical picture of Hodgkin's disease of the cecum is characterized by dull, constant pain in the right lower quadrant of the abdomen, associated with anorexia, nausea and slight loss of weight.

According to Spellberg and Zivin,[11] obstructive symptoms are absent. Anorexia and epigastric distress, however, are usually prominent; aching in the right lower quadrant of the abdomen is often severe.

Neither hematemesis nor melena is usual or frequent in reported cases. Anemia and diarrhea are rarely associated with Hodgkin's disease, in contrast to carcinoma in this area. Most authors agree that in the presence of lymphoma anemia is uncommon, even rare; if present, it is very slight.[22] Loss of energy is slight to moderate. As the disease progresses, the pain becomes more severe and a palpable mass is usually present, possibly with acute or chronic peritonitis.

Prognosis.—Minot and Isaac,[23] in their analysis of a large group of lymphomas, concluded that the duration of life was longer in the patients with symptoms referable to the gastrointestinal tract. In contrast, Craver and Herrmann[24] found that life expectancy was short (nine to twelve months) when the initial lesions of Hodgkin's disease were localized in the gastrointestinal tract.

The observation by Minot and Isaac can perhaps be explained by the observation that gastrointestinal complications of Hodgkin's disease usually develop in the later stages, i.e., in patients who have had the disease for several years. It has been brought out[25] that, even if the retroperitoneal lymph nodes are involved early in the disease, symptoms and signs will develop only in the later stages. For a long time the abdominal organs are able to adjust to the space-occupying masses. Only when the viscera can no longer accommodate themselves to the enlargement of the masses will pressure symptoms arise.

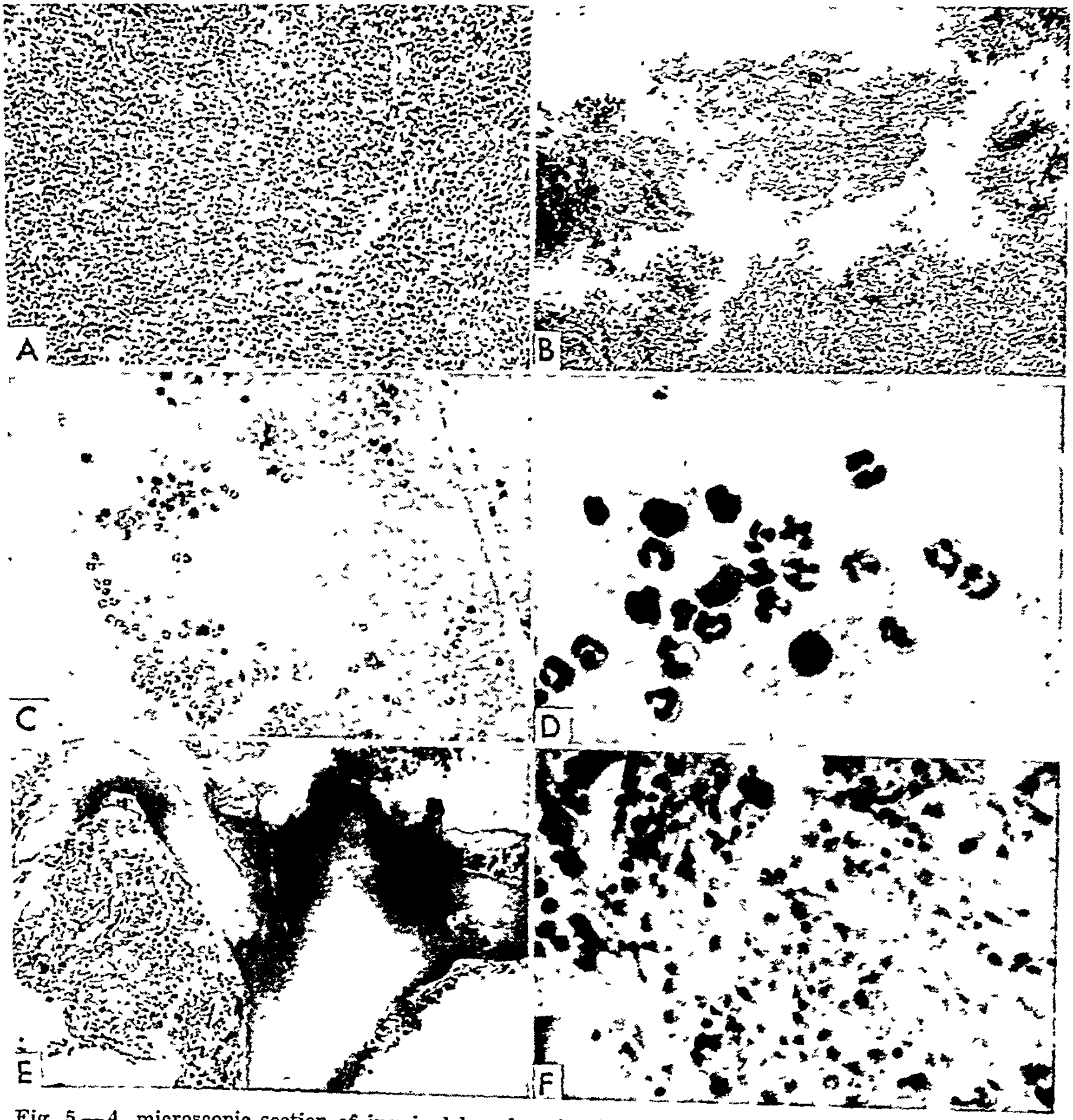

Fig. 5.—*A*, microscopic section of inguinal lymph node, showing no evidence of Hodgkin's disease. *B*, photomicrograph indicating no obliteration of architecture of lymph nodes. *C*, smear from aspirated bone marrow, essentially normal. *D*, photomicrograph showing normal megakaryocytes; no evidence of tumor. *E*, biopsy specimen of bone marrow, apparently normal. *F*, photomicrograph showing absence of any evidence of tumor cells on microscopic examination.

Hence the obstructive syndrome is a late manifestation and arises only in those patients who live long enough for it to develop. Warren and Lulenski[26] reported that the average duration of life in cases of primary lymphoblastoma of the gastrointestinal tract is two and one-half years, as compared to the three-year survival reported by Madding and Walters.[27]

Therapy.—Nitrogen mustard and irradiation do not change the ultimate outlook of the disease, but they will often relieve the patient for more or less prolonged periods. When these methods are applied for the first time, the results may seem little short of miraculous. At subsequent series of treatment the disease becomes more and more resistant. Investigators[28] who have vast experience in the treatment of Hodgkin's disease consider roentgen therapy most effective in the localized form of the condition, and nitrogen mustard therapy the method of choice in instances of generalized adenopathy.

Sussig[29] and Singer[30] have advocated surgical resection combined with roentgen therapy for localized Hodgkin's disease of the gastrointestinal tract. When the lesions are inoperable or surgical intervention is contraindicated, roentgen therapy is advocated for the amelioration of symptoms and the prolongation of life.

According to Levinson, Walter Cartwright, and Wintrobe,[31] their data do not support the impression that early roentgen or mechlorethamine hydrochloride therapy prolongs the life of a patient with Hodgkin's disease.

Widmann[32] has expressed the opinion that, in cases of Hodgkin's disease localized to the cecum, in which resection has been done, roentgen therapy should not be used.

REPORT OF CASE

S. D., a 23-year-old white man, an automobile mechanic, was admitted to the hospital on July 14, 1958, complaining of pain in the right lower quadrant of the abdomen, associated with nausea but no vomiting of one day's duration.

The patient had last felt perfectly well up to two weeks before admission, when he was first seized with pain in the right lower quadrant of the abdomen, accompanied by nausea and vomiting. He did not think the attack important or severe enough to seek medical advice, and took some sodium bicarbonate at home. On the following day the nausea and vomiting cleared up; but some residual pain in the right lower abdominal quadrant persisted for the next two days, then gradually disappeared. The patient did not stay at home from work during his attack of abdominal pain.

On the morning of admission to the hospital he felt nauseated after having eaten breakfast, and had severe continuous pain in the right lower abdominal quadrant, with no radiation. He decided to see a physician at once and was referred to me.

The past medical history was irrelevant except for whooping cough in childhood. The patient had had no previous operation, loss of weight or contagious diseases. His mother and father were living and well; two brothers and three sisters were living and well. The patient was not married and used no alcohol; he took no drugs and smoked only moderately. A systemic review was not informative.

Physical examination showed the patient to be well developed, with no abnormalities except for the abdomen. Marked tenderness and some muscle guarding were elicited over McBurney's point. The only masses palpable were two nontender, freely movable lymph nodes just below the middle third of the inguinal ligament on the right. The spleen and liver were not palpable. Rectal examination elicited a great deal of tenderness in the right side of the pelvis, but no masses were detected by palpation. The prostate was normal in size and contour.

The temperature was 99 F. The pulse rate was 90 and the respiratory rate 20. The blood pressure in millimeters of mercury was 124 systolic and 80 diastolic.

Laboratory studies showed a hemoglobin level of 12.3 Gm. per hundred cubic centimeters. The erythrocyte count was 4,000,000 per cubic millimeter of blood and the hematocrit reading 42 per cent. The leukocyte count was 10,300 per cubic millimeter, with 82 per cent segmented neutrophils, 15 per cent lymphocytes, 1 per cent monocytes and 2 per cent eosinophils. Urinalysis and serologic studies of the blood gave negative results.

It was my clinical impression the patient had appendicitis, and operation was performed on the morning of admission. With the region under spinal anesthesia, a McBurney muscle-splitting incision was made, and the appendix was free in the pelvis and perfectly normal. Exploration of the terminal ileum and mesentery revealed no abnormality. The cecum contained a hard, firmly fixed mass, posteriorly situated and about the size of an orange, which was thought to be a carcinoma. The serosa was edematous and injected.

In view of the fact this lesion was considered malignant and a right hemicolectomy was necessary, the appendix was not removed; the incision was closed in layers. The patient was prepared for right colectomy with sulfasuxidine for three days and neomycin twenty-four hours before the operation. Castor oil, 1½ ounces, was given initially to clean out the bowel and was followed by daily enemas. Sigmoidoscopic examination before colectomy revealed no abnormality.

The patient was reoperated on, with a preoperative diagnosis of carcinoma of the cecum. The abdomen was opened through a lower right rectus incision, and exploration revealed normal conditions throughout except for the hard, fixed mass in the head of the cecum, previously described. The edema and injection of the serosa over the cecum extended to a distance of about 6 cm. Just below and medial to the cecal mass were two firm and discrete lymph nodes, each about the size of an almond. No other nodes were seen or palpated in the abdomen; the liver was normal in size, color and contour, as well as to palpation.

The terminal portion of the ileum, cecum, and ascending colon to the midtransverse portion of the colon were resected, and an end-to-side ileotransverse colostomy was performed.

The abdomen was about to be closed when suddenly the patient went into cardiac arrest. No peripheral pulse or blood pressure could be obtained by the anesthesiologist, and I could feel no pulsation in the abdominal portion of the aorta. Immediately the left side of the chest was opened and cardiac massage performed. A few massages gave no response, and then the pericardium was opened; the myocardium was grasped and massaged several times. The pulse appeared gradually as the heart resumed its own rhythm, and the blood pressure was maintained with twenty-five minutes of massage. The pericardium, the chest and the abdomen were closed simultaneously; the patient had a good pulse rate (85) and a blood pressure of 100 systolic and 80 diastolic when he left the operating room.

The immediate postoperative period was excellent in that the patient responded well, showing good cerebral function. His course continued to be good, and ambulation was permitted on the third day. There was spontaneous bowel movement on the fourth postoperative day, and the patient was taking food well by mouth.

The pathologic report was as follows:

"*Gross:* The specimen consists of: 40 cm. of colon and 11 cm. of ileum.[1] There is an ulcerated 4.5 cm. lesion arising at the root of the appendix, with firm elevated margins. The base consists of necrotic green material.[2] The wall of the colon at the site of the lesion is infiltrated by firm grey tissue that penetrates the serosa. At this point[3] numerous large, firm grey lymph nodes are present. The resected margins appear grossly free of tumor.

"*Microscopic:* Sections taken through the colonic lesion demonstrate a large ulcerative lesion of the colon, with the colonic mucosa ending abruptly at the margin of the ulcer.[4] The mucosa does not exhibit any metaplastic change. The ulcer is layered with necrotic débris and colonies of bacteria. There is a dense cellular infiltrate in the submucosa, penetrating into the muscularis.[5] This infiltrate consists of large cells with scanty eosinophilic cytoplasm but showing large and bizarre nuclei with prominent red nuclei. Between these cells there are many eosinophils and plasma cells. Occasionally a Reed-Sternberg cell is detectable.[6] Two out of seven regional lymph nodes are involved. Here the tumor exhibits marked caseoid necrosis.[33] The normal lymph nodes demonstrate no alteration in their pattern, but numerous eosinophils are identifiable within their sinusoids.[8] The appendiceal wall is thickened and exhibits serosal fibrosis; its muscularis is infiltrated by plasma cells, lymphocytes and eosinophilic polymorphonuclear leukocytes.[9] The resected margins appear normal.

"*Diagnosis:* Hodgkin's disease involving the cecum and two out of seven regional lymph nodes. The resected margins are free of tumor."[9]

In view of the fact this patient had Hodgkin's disease of the cecum, he was carefully studied for systemic evidence of the disease.

Two thoracic roentgen examinations, one week apart, after the operation showed no evidence of the disease; the mediastium was normal.

The two small lymph nodes observed below the right inguinal ligament at the original physical examination were removed for biopsy, and gave negative results for Hodgkin's disease, as here reported:

"*Gross:* The specimen consists of a lymph node measuring 0.6 by 0.3 by 0.2 cm. It is firm grey-tan. It was sectioned *in toto.*

"*Microscopic:* Microscopic section of the lymph node demonstrates an intact capsule.[10] There are focal areas of fibrosis with a minimal hyperplasia of the reticuloendothelial cells.

There is no obliteration of the lymph nodal architecture.[11]

"*Diagnosis:* Reticuloendothelial hyperplasia of the lymph nodes with focal fibrosis. There is no evidence of neoplasia."[12]

Aspiration of the bone marrow was done and revealed normal conditions:

"*Microscopic:* Microscopic examination of the smear made from a bone marrow aspirate and stained with Wright's stain demonstrate the red cells to be normal. Scattered megakaryocytes are seen, and these appear to be normal.[13] Developing cells of the myeloid and erythroid series are sparse, owing to the marked dilution present. Those that are seen appear cytologically normal. Good maturation is evident. No evidence of tumor cells is seen.[13]

"*Diagnosis:* Diluted bone marrow aspiration inadequate for diagnosis. No tumor cells are seen."

Further bone marrow studies were performed and a marrow biopsy was done, with the following results:

"*Gross:* The specimen consists of two cylindric fragments of firm white tissue measuring 0.2 by 0.1 cm. each. It is sectioned *in toto.*

"*Microscopic:* Microscopic sections demonstrate bony trabeculi, which appear normal.[14] The red marrow is cellular, and numerous megakaryocytes are observed. The marrow is pleomorphic and consists of maturing cells, both red and white, without evidence of tumor cells.[15]

"*Diagnosis:* Normal bone and red marrow."

A hematologist was brought in consultation to appraise the patient's condition further. His report was as follows:

"The patient said he felt well and had no complaints. There was moderate pallor of the mucous membranes. The tongue was smooth, and a few very small lymph nodes could be palpated in the right groin and the left axilla. There was no other significant lymphadenopathy or organ enlargement elsewhere.

"A review of the histologic slides of the colonic tumor removed at the operation confirmed the diagnosis of Hodgkin's lymphoma involving the immediately adjacent mesenteric lymph nodes. The bone marrow disclosed only hyperplasia of leukopoietic tissue. Except for slight anemia and leukocytosis, no abnormalities were observed in the blood.

"Examination of the x-ray studies of the chest done before and after the operation do not reveal any clear evidence of lymphomatous disease.

"The central question at present is whether or not this man should be treated now. It seems to me, since the surgical exploration revealed no other areas involved by the tumor, and other examinations also failed to support the existence of the tumor elsewhere, that it would be best not to treat the patient but to keep him under surveillance for the next six months. This would mean visits to the physician once a month for appraisal of his condition and decision as to whether or not the treatment is justified. It may well be that much, if not all, of the lesion was removed surgically, in which case the remission should be lasting."

The pathologic slides were sent for consultation to the Armed Forces Institute of Pathology, Washington, D.C., where a diagnosis of reticulum cell sarcoma was made. This brings out a point discussed earlier in this article, i.e., that Hodgkin's disease and reticulum sarcoma are different phases of the same disease called malignant lymphoma.

Dr. Arthur Purdy Stout of Columbia University, New York City, New York, was a consultant in reading the slides and stated that they revealed Hodgkin's disease.

The patient was discharged from the hospital ten days after the operation, with both wounds of the chest and abdomen well healed. He had an excellent appetite. His mental status was the same as before the operation.

Owing to the fact that the diagnosis was localized Hodgkin's disease of the cecum, with no systemic involvement, no roentgen therapy was instituted, either in the hospital or since the discharge of the patient.

Subsequent follow-up of the patient in my office showed steady, good recovery from the operation. At the time of writing he has gained 9 pounds (4.1 Kg.) since he left the hospital. His appetite continues to be excellent. The incisions are firmly healed. There is no evidence of peripheral lymphadenopathy or other signs of Hodgkin's disease.

The patient has recently returned to work and offers no complaints.

ZUSAMMENFASSUNG

Die Hodgkinsche Krankheit kann im Magendarmkanal auftreten.

Es wird ein Ueberblick ueber die Literatur ueber Hodgkinsche Krankheit des

Magendarmkanals besonders des Zoekums gegeben.

Es wird ueber einen Fall berichtet, bei dem die primaeren Krankheitszeichen im Zoekum auftraten und klinisch eine Aehnlichkeit mit Blinddarmentzuendung bestand.

Die primaere Hodgkinsche Erkrankung des Zoekums ist selten und kann auf dem Operationstisch leicht mit einem Krebs verwechselt werden.

RESUMEN

La enfermedad de Hodgkin puede manifestarse en el tracto gastrointestinal. En este trabajo se pasa revista a la literatura sobre el Hodgkin y el aparato digestivo. Se trata sobre un caso de Hodgkin del ciego que clínicamente parecía una apendicitis. La enfermedad de Hodgkin primaria del ciego es rara y a primera vista puede ser confundida en la mesa de operaciones con un carcinoma.

RÉSUMÉ

La maladie de Hodgkin peut se manifester dans le tube digestif.

La littérature publiée à ce sujet—particulièrement en ce qui concerne le caecum—est analysée.

L'auteur décrit un cas ayant simulé une appendicite, où les premiers symptômes de l'affection avaient pour siège le caecum.

La localisation primaire au caecum de la maladie de Hodgkin est rare, et elle peut être grossièrement confondue, à l'opération, avec un carcinome.

SUMARIO

Diz que podem haver manifestações da molestia de Hodgkin no trato gastro-intestinal, fazendo então uma revisão da literatura especialmente de relação ao cecum.

Refere um caso em que essa localisação simulou a apendicite. A molestia de Hodgkin no cecum é rara mas pode ser gresseiramente confundida na mesa operatoria com o carcinoma.

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Significant proof of the close relationship existing between historical events and the progress of medicine is contained in the ancient secular terror at touching dead bodies, not to mention performing autopsies. That terror, increased by the religious persecution of those who dared to defy the prohibition against dissection of corpses, retarded the progress of anatomy and medicine, which were limited to animal dissection for thousands of years. Later, when impatient anatomists clandestinely used corpses dug up from cemeteries, autopsies were carried out with great caution, often several days after death, when autolysis had already transformed the adrenal medulla into a dark viscous liquid (*atrabilis*) contained within the cortex. Hence, it was thought that the adrenals were capsules (*capsulae suprarenale*) full of liquid, which testifies to the close tie existing between the historical *ambiance* of each period and the evolution of medicine. A religious taboo retarded the knowledge of the anatomic structure of the adrenal glands for hundreds of years!

—*Marti-Ibañez*

The Surgical Treatment of Peptic Ulcer: Evolutionary Progress

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The evolution of treatment for peptic ulcer is discussed. Either perforation or recurrent obstruction requires surgical intervention. With regard to perforation, the author approaches the problem from the point of view of simple closure versus resection.

Vagotomy routinely accompanying gastrectomy is also discussed, with emphasis on its special value in cases of inflammatory duodenal ulcer and in the presence of a poor nutritional state, excessive nocturnal secretion and a high acid level.

For gastrojejunal ulcer associated with gastroenterostomy and gastric resection, the author recommends resection for the former and vagotomy for the latter. Replacement of a portion of the stomach with transplant from the colon or the small intestine has both merits and drawbacks. It is not advisable in the treatment of duodenal ulcer.

THE surgical treatment of lesions of the stomach and duodenum has been one of progressive change, an evolutionary process. Most surgeons a quarter of a century ago were supporting the procedure of posterior gastroenterostomy as the operation of choice in the treatment of peptic ulcer. Finney and Hanrahan,[1] Judd and Hazeltine,[2] Horsley[3] and others, however, were impressed with the results obtained by pyloroplasty. It was frequently employed by many surgeons.

Partial gastrectomy for duodenal ulcer was primarily initiated in Germany and Austria. It was used in preference to gastroenterostomy because fewer recurrent or stomal ulcers occurred.

A few bold surgeons in the United States adopted this procedure and demonstrated a lower incidence of recurrent ulceration after resection than had been observed after gastroenterostomy. Pioneers in this field of partial gastrectomy were Berg,[4] Lewisohn[5] and Strauss[6] and their associates. Objections were widespread against the removal of so large a portion of the stomach for a small gastric or duodenal ulcer. Also, when a gastrojejunal ulcer did occur after resection, it was much more difficult to approach surgically than after gastroenterostomy, and it required removal of still more of the stomach. With the improvement of surgical technic, better understanding and appraisal of the surgical risk, proper preparation of the patient for operation and increasing experience with partial gastrectomy for ulcer, the operative mortality rate has steadily declined, until now it is at a near minimum of 1 to 2 per cent.

It soon became apparent, after experience and the comparison of results, that resection was preferable to gastroenterostomy and that recurrent ulceration was less frequent. The functional results were

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satisfactory. This was evidenced by patients who, then as today, after years of medical treatment for ulcer, were restored to gastric comfort and an entirely new way of life by partial gastric resection. These patients report repeatedly that they regret not having submitted to the operation years ago. Comfort had been attained only by gastric resection. Serious complications, as compared to years of medical disappointment, have been so infrequent as to be no potent influence against the operation.

Vagotomy as revised and popularized by Dragstedt[7] has much merit and is the procedure of choice in many instances. Some surgeons advocate vagotomy with all gastrectomies; while in the opinion of others, radical gastrectomy is adequate and vagotomy has its place, but not as a routine procedure in the surgical approach to duodenal ulcer. This I shall discuss later, because I am convinced that there are definite indications for vagotomy. If one desires it to be a routine associated procedure, I will not dissent. It is only by these different approaches that there will ultimately be a standardized procedure for and against associated vagotomy. Suffice it to say that no longer is gastroenterostomy or pyloroplasty a source of contention; the inclusion of vagotomy is the controversial issue. Partial gastric resection, with or without vagotomy, results in the lowest incidence of recurrence and the minimum of undesirable postoperative sequelae.

Replacement surgical measures are experimental. They offer some advantage to the patient with the postgastrectomy syndrome but are associated with an increased incidence of recurrent ulcer. Such a procedure is not an operation of primary choice and is rarely desirable in the presence of postgastrectomy complications.

Perforating Peptic Ulcer.—The diagnosis of perforation is usually easy to make. If it is not confirmed by roentgen evidence of free air in the peritoneal cavity, acute pancreatitis must be considered. Many of the symptoms are similar, and the presence of a high blood amylase level does not confirm the diagnosis of acute pancreatitis or exclude perforation. The patient with perforated ulcer may have a high blood amylase level because of peritoneal absorption of escaped duodenal enzymes.

Air in large quantities injected into the stomach through a nasal tube may depict pneumoperitoneum on the roentgenogram if perforation is present and was not observed on the initial film. If no air is detected by this method, there is no free perforation and immediate operation is not indicated. This procedure can do no harm. I have used it several times as a differential diagnostic agent.

Nearly all medical men consider perforation of gastric or duodenal ulcer a surgical emergency. When perforation occurs in association with either of these ulcers, an escape of gas and an outpouring of the contents of the viscus take place. Contamination occurs, and serious infection may ensue. Some perforations are so slight that they may be spontaneously sealed with omentum or surrounding tissues. This has been repeatedly demonstrated at abdominal exploration. Only slight contamination and little or no infection of consequence occurs in these sealed perforations. Clinically the symptoms are slight and usually unrecognized. When perforation is clinically apparent, I advise surgical exploration rather than gastric drainage and a medical regimen.

The problem of closure versus resection is controversial and, from my point of view, is related to whether the lesion is gastric or duodenal, obstructive or previously associated with hemorrhage.

A *perforating gastric ulcer* should usually be resected at the time of exploration, because of the uncertainty of its histologic nature. No means other than microscopic section is available to determine the cytologic structure of the ulcer; and since at least 10 per cent of gastric ulcerative lesions are malignant, resection rather than simple closure is advised.

This was dramatically demonstrated to me more than twenty years ago when I closed a supposedly benign perforation of a gastric ulcer in a man 39 years old, only to have him return six months later with an unresectable carcinoma of the stomach.

Perforation of a duodenal ulcer into the abdominal cavity may require simple closure, or certain conditions may indicate subtotal gastric resection. When there is no sign of obstruction, when the ulcer is not chronic, is not extensively indurated near the pylorus, has not been intractable to medical management and has not bled, the ulcer, in my opinion, should be simply closed. Drainage should be employed if the duration of the perforation and abdominal contamination indicate it. When in doubt, drain; it can do no harm. A perforation without induration or evidence of chronicity may remain symptomless after closure. Each case must be individualized. Some prominent surgeons have for years resected such lesions, in most instances at the time of operation for perforation. I do, under the aforementioned conditions.

Massive Hemorrhage from Ulcer.—Massive hemorrhage is one of the major complications of peptic ulcer, and the decision to continue medical treatment or institute surgical intervention is hard to make. The medical and surgical points of view are often at divergent extremes. There must be a happy medium based upon the age of the patient, the degree of obvious arterial sclerosis, the patient's past history as to repeated hemorrhages and the response to a limited number of blood transfusions at the time of hemorrhage. Many papers have been written on this subject, but no plan has been presented in which a definite criterion would indicate immediate operation. The decision for operation is never an easy one to make. The tendency is, too often, to defer operation until vascular collapse has become a problem of great magnitude.

I am convinced that in the presence of massive hemorrhage from peptic ulcer, when circulatory balance is not restored after transfusions of 4 to 5 units of blood, the patient is still bleeding and operation should be performed at once. I have never regretted this approach, and, since some basis for action should be established, I consider this a workable plan.

Since most of the patients in these cases are seen first by the medical consultant, surgical advice should be promptly sought, and an unbiased cooperative appraisal should be the basis of therapeutic action. I agree that bleeding often ceases spontaneously and that many patients recover without operation. It is therefore hard to determine the procedure to follow in the individual case. I recognize, however, that the problem is real and that many patients die of massive hemorrhage from peptic ulcer who could have been saved by a timely operation. I would not consider operation for all patients with bleeding ulcer, nor would I condone medical management for all of them. Each case must be medically and surgically evaluated. I consider it better to err on the side of operation to stop the bleeding. I know from many experiences that these patients stand surgical intervention remarkably well and that as soon as the bleeding is controlled the patient, who is in vascular collapse, will regain circulatory balance and a sustained blood pressure through transfusion support. I advocate surgical interruption of the bleeding and expect good results even for those cold, pulseless patients with no blood pressure who are in extreme vascular collapse from hemorrhage. No other procedure is effective. The results well reward the surgeon for his courage and determined action. I often wonder why one ponders the wisdom of operation in these cases of serious hemorrhage, when no such delay is considered in other and similar surgical emergencies.

Intractable Ulcer.—Intractable ulcer is a penetrating ulcer, usually on the posterior wall of the stomach or duodenum, which, because of induration, fibrosis, vascular occlusion and crater formation, is not likely to heal with any permanent degree of security under medical management. The lesion is comparable to a varicose ulcer of the leg, which heals with thin, poorly vascularized epithelium. The blood supply is so poor that a well-nourished granulation bed filling the exposed crater is impossible, and nutrition is insufficient to promote permanent healing; hence an early breakdown is to be expected. In the surgeon's opinion, because of penetration, crater formation and insufficient blood supply for a granulating base, adequate epithelization will not result and healing will not be permanent. A patient with such an ulcer cannot carry on his normal activities, is intractable to medical management and should be operated upon.

Physicians state that these ulcers are not intractable; it is only the doctor or the patient who is intractable. They maintain that comfort can be obtained by medical measures and that the ulcers will heal. How many persons afflicted with such an ulcer can afford to consent to the required bed rest, diet and medical treatment? How long can a patient maintain a good nutritional status under such a protracted regimen? How can he retain his economic responsibility, and just how long would his zeal for such a restricted life continue?

With resection, a high degree of postoperative gastric comfort can be expected, which is far more than can be obtained over a long period by medical treatment. The occasional unsatisfactory result after operation is in no way comparable to the uncertainty of long years of protracted medical management.

Pyloric Obstruction, Chronic and Recurrent.—Chronic pyloric obstruction is the end result of a long-standing, progressively fibrotic constriction of the outlet of the stomach by ulceration. Some operation must be performed to provide an outlet for the passage of food if life is to be sustained. The choice of procedure is, in my opinion, dependent on the age of the patient and the acid values of the gastric contents.

For patients of advanced years with a relatively short life expectancy and low acid values there is no better operation than posterior gastroenterostomy, with or without vagotomy (preferably without). If the patient has a long life expectancy and the acid values are high, gastric resection is preferable. An accompanying vagotomy is a matter of individual preference. The ulcer is chronic; it has long since run its course, and the gastric values are usually not high enough to indicate an associated vagotomy.

Recurrent obstruction is preliminary to chronic obstruction. In all chronic fibrotic obstructions there have been previous episodes of this nature. Many patients with an ulcer near the pylorus get along fairly well under restricted activity and dietary precautions. They cannot, however, under normal activity escape periodic attacks of pyloric obstruction from recurrent edema and activation of the ulcer. I am therefore convinced that gastric resection should be advised after two or three trials of adequate medical management have failed to permit the patient to earn his livelihood in the way for which he is prepared without recurring obstruction and discomfort.

Carcinoma and Gastric Ulcer.—Much has been written about the relationship of acute gastric ulcer to malignant disease. There is no accurate way to make a differential diagnosis, and he who treats a gastric ulcer for a protracted period of time without the realization that he may be dealing with a malignant ulcer is assuming a grave responsibility. There is no way of making an accurate diagnosis. The "brush cytology" method is excellent if the results are positive but is of no value if they are negative. Response to treatment, the acid values of the gastric secretion, the diameter of the ulcer crater as seen by roentgen study and the radiologic indications of healing have not proved infallible. Even the gross appearance of the lesion after removal of multiple frozen sections at the operating table is often inaccurate. The location of the ulcer is of some value. Ulcers on the greater curvature are more frequently malignant than are ulcers elsewhere. Those on the lesser curvature are less likely to be malignant than those in the prepyloric region of the stomach. Certainly there is a diagnostic error, associated with all known methods of differential diagnosis, of at least 10 per cent. My own is 11 per cent, and many have reported a much higher percentage.

Notable authorities, e.g., Welch and Allen,[8] Marshall,[9] Ravdin and Horn,[10] Strode[11] and others have confirmed the high percentage of error in the preoperative diagnosis between benignity and malignancy in gastric ulcer.

Removal of Ulcer.—Most ulcers can be surgically removed even when they are low, indurated and close to the common bile duct. Any attempt to resect a duodenal ulcer should in all instances be accompanied with exposure of the common bile duct. This enables me to appraise its relation to the indurated ulcer and to estimate the ability to close the duodenal stump securely after resection. Experience with a large group of posterior penetrating duodenal ulcers, therefore, has convinced me that the ulcer can usually be removed. I disapprove of the exclusion operation. I consider it unwise to leave the ulcer when it is possible to remove it. Although excluded from the erosive effects of the gastric juice, many ulcers may not heal or remain healed, as is evidenced by subsequent bleeding. I have always advocated removal of the pathologic condition when possible.

Gastrojejunal Ulcer.—When gastroenterostomy has been performed as a sole procedure and stomal ulcer develops, *it is not sufficient to disconnect the gastroenterostomy* and restore gastroduodenal continuity. Recurrence of the old duodenal ulcer will occur in 50 per cent of cases and in 60 per cent if pyloroplasty is performed, as reported by Walters.[12]

When stomal ulcer develops in association with gastroenterostomy, the bypass should be disconnected and subtotal gastric resection performed. When recurrence has developed after subtotal gastrectomy, as has been mentioned under the discussion of vagotomy, a vagotomy should be done if no obstruction is present. The remainder of the stomach should be preserved if possible. Additional resection should be undertaken only in the presence of an obstructive jejunal ulcer. If vagotomy is not successful, further resection can be performed subsequently.

Vagotomy.—The cephalic phase of duodenal ulcer and the complications of stomal ulcer after resection represent the two types of ulcer in which vagotomy is most useful.

The gastric phase, accompanied with high gastric acidity, is best controlled through lowering the gastric acid by a high subtotal gastrectomy. Vagotomy is not essential. It is my policy to perform vagotomy in all cases in which there is a recurrent stomal ulcer without obstruction rather than perform another resection if the primary resection was adequate. Secondary resection can always be carried out, and I prefer to conserve what remains of the stomach if possible. My results have been good. The value of vagotomy and gastroenterostomy depends on the period of time after operation. Walters[12] reported unfavorable results in 141 patients subjected to this procedure. Seventy per cent showed good results, 25 per cent satisfactory results, and 5 per cent had recurrent ulcers in a follow-up study over two to eight years; with the passage of further time the results were progressively poorer because of the more frequent occurrence of gastrojejunal ulcer (about 7 per cent). The frequency of recurring ulcer after radical partial gastrectomy has been about 2 to 3 per cent.

Vagotomy with posterior gastroenterostomy is the operation of choice when a patient is thin and a poor eater. A patient with this nutritional deficiency will never gain weight after resection. It is also a wise procedure in a case of duodenal ulcer associated with much edema and inflammatory reaction when it is apparent that closure of the duodenal stump might be insecure. A large amount of night secretion with high acid values indicates vagotomy associated with high gastric resection.

Dumping Syndrome.—The dumping syndrome is an objection to partial gastrectomy for peptic ulcer and is constantly presented as an argument against operation. It usually occurs during a meal or shortly thereafter. It is associated with weakness, pallor, often sweating and sometimes nausea and vomiting. In my experience it has not been a complication associated with any great degree of disability. A faint weakness is sometimes complained of; rarely is it disabling or permanent.

Presumptive theories concerning the origin of this condition are based upon the rather abrupt mechanical distention of the jejunal loop by the sudden dumping of the stomach contents into it—a solar plexus response.

It is my conviction that too large a gastrojejunal stoma, the chemical factor of undiluted hypertonic fluid being delivered rapidly in volume into the jejunum, resulting in the elevation of the blood sugar to a high level followed by a hypoglycemic reaction, is an important factor. It is therefore a hyperglycemic phase, followed eventually by a hypoglycemic one. The type of operation has a great deal to do with it. I have not been bothered much with it, since I perform the Hofmeister anticolic type of anastomosis and buttress the distal limb of the jejunum against the closed upper third of the lesser curvature of the residual stomach. I make a small stoma not over 2 fingerbreadths in diameter about the diameter of the jejunum and, with suture of the distal limb of the jejunum against the closed segment of stomach on the side of the lesser curvature, a valvelike outlet is made; thus the stomach cannot dump its contents into the jejunum suddenly and in great volume, as it can in the Polya type of operation. This retarded emptying of the stomach can be well demonstrated by postoperative roentgenograms. In this anastomosis the proximal loop is placed at the greater curvature and the distal at the lesser curvature.

Replacement in Surgical Procedures.—Replacements for segments of the stomach have been made by various splicing operations from portions of the intestinal tract. Moroney,[13] in 1951, used a segment of the transverse portion of the colon to replace the distal end of the stomach in subtotal gastrectomy. The objects of this procedure were to prevent the symptoms of dumping and to provide more capacity for food intake in the hope of preventing loss in weight. After this type of operation the patient can eat more and is relieved of symptoms, and there is a gain in weight. The dumping syndrome is abolished. The patients can eat fats and sugars as well as meats; there is no steatorrhea, and dextrose tolorance is normal. ✓It would appear to be a good operation but a formidable one, obviously with an increased mortality rate due to a prolonged procedure and multiple anastomoses.

Late in 1955 Moroney reported the recurrence rate of duodenal ulcer as 8 per cent when resection was performed with vagotomy. Because of this high recurrence rate, he has abandoned it in the routine treatment of duodenal ulcer. For those who have the postgastrectomy syndrome, the results with this procedure have been satisfactory, with a gain in weight and only slight postoperative sequelae. This procedure is inferior to high gastrectomy, with or without vagotomy, for duodenal ulcer, because in no reported instance has the recurrence rate been as high as 8 per cent.

Watkins and Wittenstein[14] have used this procedure in 7 cases. In their opinion this makes possible a Billroth I type of reconstruction after subtotal gastrectomy. This results in what is in reality a neostomach, and food is delivered slowly to the duodenum. These authors consider the preservation of duodenal function important from the standpoint of nutrition. They encountered no postgastrectomy syndrome, and they advocate subtotal gastric resection with colonic substitution.

SUMMARY

The evolutionary procedures employed in the treatment of peptic ulcer are discussed step by step.

Intractable ulcer is a surgical problem. The comfort resulting from surgical treatment far exceeds any that can be obtained by protracted and repeated attempts at medical treatment.

Recurrent obstruction finally must be corrected by surgical measures.

Perforation requires surgical intervention and is discussed from the point of view of simple closure versus resection.

Massive hemorrhage is a controversial medical and surgical problem. Unbiased cooperation is urged. It is better to err on the side of early surgical relief than by protracted medical observation.

Vagotomy is discussed as a routine procedure in gastrectomy. The author concludes that there are definite values in vagotomy and that there is a useful field for its employment. Especially is it useful to patients with poor nutritional values, in cases of low-lying duodenal ulcer, and for patients with high night secretion and high acid values.

The treatment of gastrojejunal ulcer associated with gastroenterostomy and gastric resection is discussed, and a personal opinion is expressed. Resection is recommended for the former and vagotomy for the latter.

Intestinal replacement of a segment of the stomach by a portion either of the colon or the small intestine is described. Its merits and objections are noted. The procedure is not advised in the treatment of duodenal ulcer.

Attempts are made to discuss the problem from a practical point of view.

SUMARIO

Discute pormenorisadamente a evolução dos metodos de tratamento da ulcera péptica. A ulcera intratavel é de indicação cirurgica: esse tratamento excede em conforto qualquer outro método terapeutico. A recidiva da obstrução deve ser tratada cirurgicamente.

A perfuração requer tratamento cirurgico discutindo o A. o simples sutura e a ressecção. Existe ainda controversia sobre

a conduta cirurgica ou médica nas hemorragias; afirma que é melhor errar operando que deixando para agir tardiamente.

Discute a vagotomia como rotina na gastrectomia. Conclue que há valo res diversos na vagotomia e indicações precisas. Muito util nos pacientes pouco nutridos, nos casos de localisação baixa e nos casos de elevado teor de acides e secreção.

Discute o tratamento da gastrojejunal associada com gastroenterostomia e resecção gastrica expressando sua opinião pessoal. Recomenda a resecção para a primeira e a vagotomia para a última. Descreve a substituição de um segmento do estomago pelo colo ou pelo intestino delgado, registrando seus meritos e objeções. Este metodo não é aconselhavel no tratamento da ulcera duodena. Discute os problemas do ponto de vista pratico.

ZUSAMMENFASSUNG

Die entwicklungsmaessig sich ergebenden Formen der Behandlung des peptischen Geschwuers werden Schritt fuer Schritt eroertert.

Das unbeeinflussbare Geschwuer stellt ein chirurgisches Problem dar. Die guenstigen Wirkungen chirurgischer Behandlung ueberwiegen bei weitem die, welche durch ausgedehnte und wiederholte Versuche medizinischer Behandlung erzielt werden koennen.

Rueckfaellige Magenverschluesse muessen letzten Endes mit chirurgischen Massnahmen behoben werden.

Die Perforation eines Geschwuers erfordert chirurgischen Eingriff. Die einfache Schliessung und die Resektion werden einander gegenuebergestellt.

Die massive Blutung stellt ein Problem dar, bei dem sich medizinische und chirurgische Anschauungen entgegentreten. Es wird dringend zu unvoreingenommener Zusammenarbeit geraten. Es ist besser, einen Fehler durch fruehzeitige chirurgische Behandlung als durch langausgedehntes Abwarten unter medizinischer Behandlung zu machen.

Es wird auf die Frage eingegangen, ob bei der Magenresektion die Vagotomie als routinemaessiger Eingriff ausgefuehrt werden soll. Der Verfasser kommt zu der Ueberzeugung, dass die Vagotomie unzweifelhafte Vorzuege hat, und dass es ein Gebiet fuer ihre nuetzliche Anwendung gibt. Besonders eignet sie sich fuer Kranke in schlechtem Ernaehrungszustand, fuer Faelle mit tiefliegenden Zwoelffingerdarmgeschwueren und fuer Patienten mit starker Nachtsekretion und hohen Saeurewerten.

Die Behandlung des nach Magenresektion und Gastroenterostomie auftretenden gastrojejunalen Geschwuers wird eroertert und die persoenliche Ansicht des Verfassers ausgedrueckt. Bei gastrojejunalen Geschwueren nach Gastroenterostomie wird die Resektion empfohlen, zur Behandlung solcher Geschwuere nach Magenresektion wird die Vagotomie angeraten.

Es wird ein Verfahren zum Ersatz eines Magenabschnitts durch ein Dick- oder Duenndarmsegment beschrieben. Die Vorzuege und Nachteile des Verfahrens werden dargestellt. Der Vorgang empfiehlt sich nicht zur Behandlung des Zwoelffingerdarmgeschwuers.

Der Verfasser bemueht sich, die Probleme von einem praktischen Gesichtspunkt aus darzustellen.

RÉSUMÉ

L'évolution graduelle des méthodes thérapeutiques de l'ulcère peptique est décrite.

L'ulcère rebelle est du ressort de la chirurgie, dont les résultats dépassent de loin tous ceux qui peuvent être obtenus par des traitements médicaux prolongés et répétés.

L'obstruction récédivante doit finalement être contrôlée par des moyens chirurgicaux.

La perforation requiert une interven-

tion chirurgicale, depuis la suture simple jusqu'à la résection.

L'hémorragie massive est un problème médical et chirurgical controversé, et l'auteur recommande une collaboration entière, libérée de tout parti pris. Il est préférable de commettre l'erreur éventuelle d'une opération précoce que de temporiser par une observation médicale prolongée.

La vagotomie est discutée en tant que méthode de routine dans la gastrectomie. L'auteur conclut que la vagotomie comporte des avantages bien définis et qu'elle a un champ d'application utile, particulièrement dans les cas de dénutrition, d'ulcère duodénal bas-situé, ainsi que chez les malades présentant une forte sécrétion nocturne et un taux d'acidité élevé.

Le traitement de l'ulcère gastrojéjunal associé avec une gastroentérostomie et une résection gastrique est discuté, et l'auteur exprime à ce sujet une opinion personnelle. La résection est recommandée dans le premier cas, la vagotomie dans le second.

Le remplacement intestinal d'un segment d'estomac par un fragment de côlon ou de grêle est décrit, avec ses avantages et ses inconvénients. Cette technique n'est pas recommandable en cas d'ulcère duodénal.

L'auteur s'attache à discuter ce problème du point de vue pratique.

RIASSUNTO

Vengono trattati, uno per uno, i vari metodi impiegati nella cura dell'ulcera duodenale.

L'ulcera che resiste alla cura medica rappresenta un problema chirurgico; i benefici che derivano dall'intervento di gran lunga superano tutti quelli che si possono ottenere con ogni forma di trattamento medico anche protratto.

Anche la stenosi pilorica deve essere trattata chirurgicamente, come pure la perforazione, se pure in questo caso si può discutere se si debba suturare o resecare.

L'emorragia, invece, è un problema controverso sia per i medici che per i chirurghi. E' indispensabile una imparziale collaborazione, ed è meglio sbagliare facendo un intervento precoce piuttosto che procrastinare troppo a lungo con la terapia medica.

Viene discusso il valore della vagotomia come metodo complementare della resezione. L'autore conclude che essa ha un indubbio vantaggio e l'ulcera rappresenta un campo di applicazione indiscutible. Essa è particolarmente utile nei malati in cattive condizioni, o nelle ulcere inveterate o in quei malati che hanno abbondante secrezione acida.

Viene trattata anche la terapia delle ulcere anastomotiche dopo resezione o gastroenterostomia; nelle prime è indicata la vagotomia, nelle seconde la resezione.

Viene descritto, infine, un metodo di sostituzione dello stomaco mediante colon o tenue; questo metodo non ha applicazione nella cura dell'ulcera.

RESUMEN

Se hace un estudio paso a pase de la evolución de los procedimientos empleados en los tratamientos de la úlcera de estómago.

La úlcera intratable es un problema quirúrgico. El resultado que se obtiene después de un tratamiento quirúrgico es con mucho superior al que pueda lograrse después de ditatados y repetidos intentos de tratamiénto médico. La obstrucción acaba finalmente por tener que ser corregida por métodos quirúrgicos.

La perforación requiere intervención quirúrgica estando la discusión entre el simple cierre o la resección. La emorragia masiva plantea también un dilema entre el médico y el cirujano. La colaboración imparcial es indispensable; mejer es equivocarse anticipando la cirugía que perder

el tiempo con observación médica. Se discute si debe o no ser la vagotomía el procedimiento de rutina. El autor cree que la vagotomía tiene un valor efectivo y un amplio campo de empleo. El especialmente es útil en enfermos en mal estado de nutrición, en úlceras muy lejanas en la segunda porción del duodeno y en los sujetos con gran secreción ácida nocturna.

Para los casos de úlcera aparecida después de una gastroenterostomía o de una resección la opinión del autor es la siguiente: resección en el primer caso y vagotomía en el segundo.

Se describen también las técnicas de sustitución de un segmento de estómago por un trozo de intestino delgado o grueso señalando sus ventajas e inconvenientes. Este método se a conseja en los casos de úlcera gastroduodenal.

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The introduction of an accurate method of taking blood-pressure was not greeted with universal acclaim. The old-time clinicians had been estimating blood-pressure for a century by the simple device of feeling the pulse. They did not, it is true, estimate the blood-pressure in terms of millimetres of mercury, but spoke of a high tension, a normal tension, and a low tension . . . They were quite well satisfied with their accomplishments and were not loud in their praise of the new instrument.

—*Major*

Frostbite

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COLD injury has long been recognized as serious, and in the upper midwestern areas, where winters are quite severe, the University Hospitals at Madison, Wisconsin, receive on the average of 4 cases yearly (93 cases between 1927 and 1958). Owing to the comprehensive nature of cold injury, this report is concerned primarily with a clinical study of cases in which tissue freezing *per se* is the principal injury. In addition, a brief review of certain selected current publications dealing with the pathogenesis and treatment of frostbite is presented.

Definition.—Frostbite is a generic term for a clinical syndrome that follows exposure of an extremity to freezing temperatures, the result being frozen tissue. Other cold injuries, such as trench foot, immersion foot, and various ill-defined conditions of the feet,[*] are closely allied to frostbite in that each represents a clinical entity resulting from prolonged exposure of part to cold, however, tissue freezing is absent.

For clinical purposes frostbite is divided into four degrees of severity, as follows[1]: (a) first degree, characterized by erythema, edema and desquamation of the superficial layers of the skin; (b) second degree, manifested by blister formation, however, only partial thickness of the skin is involved; (c) third degree, involving full thickness of the skin, which results in ulceration into the subcutaneous tissue, and (d) fourth degree, involving the entire thickness of the skin, and damage to adjacent soft tissue and bone with loss of the part. In many instances all degrees of frostbite are present in a frostbitten extremity. It is recognized that, when one views frostbite in this fashion, consideration must be given to the deleterious effects of cold *per se* on tissue, and in a clinical sense the two conditions are often indistinguishable; in addition, cold appears

A brief physiopathologic and therapeutic review of frostbite is presented. Although the extensive literature on this topic lends itself to generalization, it suggests strongly (1) that much of the tissue injury and necrosis associated with frostbite occurs during the freezing of the tissues, and (2) that the vascular sequelae observed after thawing, indicated principally by intravascular thrombosis, are considered complications of this injury.

Treatment, therefore, is directed to the stage at which the frostbite is first observed. In the presence of tissue freezing, rapid warming in a water bath at 43 C appears the most beneficial measure. After thawing, however, rapid warming is contraindicated, and treatment is directed toward maintaining circulation in the thawed part, the wound being cared for according to the accepted principles of wound healing, with emphasis on the prevention of infection and of further injury to the tissues.

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[*] A term employed during the Korean War as a diagnostic title for those cases of cold injury in which the feet of patients showed hyperhidrosis, erythema, maceration and denudation of the plantar surface

to play an important role in the complications resulting from a severe degree of frostbite. As nonfreezing cold injury represents a different mechanism of tissue injury, however, it will not be discussed in this paper.

Material.—The records of 93 cases of cold injury have been reviewed. In this group there were 35 patients with gangrene of the cold-injured part; in the remaining 58 no tissue loss was noted. Unfortunately, the clinical records did not indicate clearly whether actual tissue freezing had taken place; in 15 cases, however, conditions were highly suggestive that freezing had occurred, in that the cold injury was incurred at temperatures well below freezing, the duration of exposure was prolonged, and the patients described their injury in terms such as "my feet were frozen solid" or "frozen hard as a rock." In each of these 15 cases the hands and/or feet were the anatomic parts involved, and gangrene was present in each instance. It was of interest that no patient in this group was treated by a physician at the time the extremity was frozen; when medical treatment was initiated, thawing had apparently taken place, and edema, blister formation, discoloration and impending gangrene were the principal problems. In general, the patients initiated treatment of their own accord in one of three ways: (a) by permitting the part to thaw or warm at room temperature, (b) by applying cold to the involved extremity or (c) by plunging the frozen or cooled part into warm water. The merit of each of these methods of treatment was difficult to evaluate, as gangrene was present in each of the 15 patients; nevertheless, it was the impression that those patients who applied rapid warming fared somewhat better, since their tissue necrosis was the least extensive.

The treatment given patients with a gangrenous extremity was primarily conservative. Usually an interval of four to six weeks was permitted for demarcation to take place, after which time an open amputation was performed. If the gangrenous area became "wet" or infected, however, immediate amputation or a drainage procedure was initiated. During this period of waiting careful attention was given to care of the wounds, with emphasis directed toward prevention of infection and further tissue trauma. In a few cases sympathectomy was done in conjunction with the amputation. Suffice it to say, hospitalization in all cases was prolonged, averaging three months.

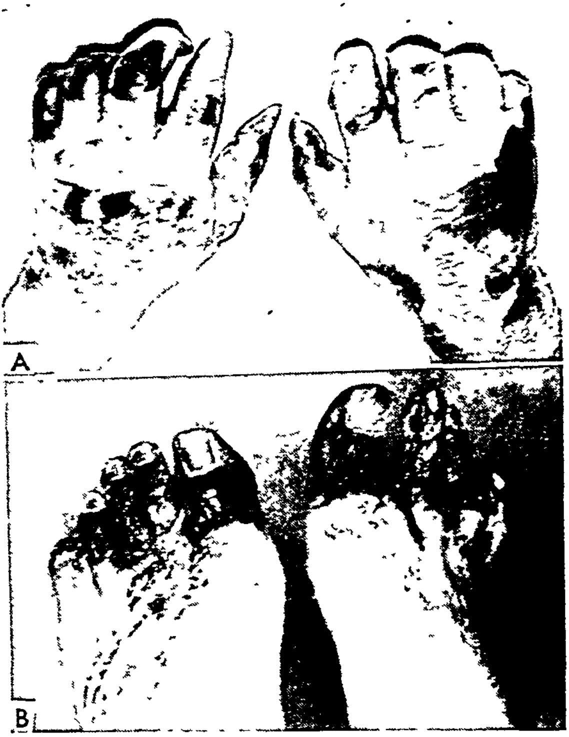
Pathogenesis.—As has been indicated, this paper is concerned primarily with frostbite, i.e., tissue freezing; and although it is difficult clinically to separate late frostbite from other and nonfreezing cold injuries, the altered physiologic state resulting from tissue freezing represents a pathologic process that is separate and distinct. As a matter of convenience, a brief summary of some of the current concepts with regard to frostbite seems in order.

In brief, mammalian tissue, when subjected to prolonged freezing and then thawed, is seriously injured and is characterized by various types of tissue necrosis. These changes have been described as involving skin, nerve, muscle and osseous tissue.[2] In addition, a wide variety of vascular lesions has been recorded, including intravascular thrombosis, nonspecific segmental arteritis and lesions resembling endarteritis obliterans.[3]

The vascular changes resulting from frostbite have been extensively studied,[4] and to list them all would be difficult, but for general interest some of them will be mentioned. Shumacker[5] has demonstrated arteriographically that blood flow is increased shortly after thawing, only to be followed by a decreased flow during the post-thawing period. Similar studies performed on the surviving extremities of animals, days and even months after the freezing experiments, have shown tortuosity and dilatation of the arterial tree.[2d] In addition, late clinical studies of war veterans who incurred cold injuries during World War II and the Korean War have suggested the blood vessels in the skin of the involved extremity do not respond normally to vasodilation or vasoconstriction stimuli.[6] Another interesting example of the vascular response to tissue freezing has been provided by the transillumination microscopic studies of rabbit ears by Quintella,[7] and by Crismon and Fuhrman.[8] These investigators observed that during the frozen state the area under examination appeared opaque. Once thawing had occurred, normal tissue was observed; with further warming, however, hyperemia and edema developed and were followed by slowing of the circulation, sludging of the cellular components of the blood and, eventually, cessation of blood flow and death of the tissue. A number of authors have interpreted these data in a manner that suggests a vascular cause for the tissue injury associated with frostbite.

Others, however,[4c] have discounted the vascular etiologic theory and have pointed out that in some frostbite experiments tissue injury has been observed as early as fifteen minutes after freezing has taken place, while in experiments dealing with ischemia, a period of three or four hours of total arterial occlusion has been necessary before tissue injury was noted. To some observers[9] these findings have suggested that frostbite is essentially a thermal type of injury, comparable in many respects to a burn, and that the "direct action of cold on tissue" is the cause.

Recently Meryman[10] and his associates have clarified much of the current knowledge concerning frostbite and have fitted together some of the aforementioned observations into an all-embracing explanation for the tissue injury present in this condition. Briefly, Meryman has made the significant observation that clinical frostbite is a slow freezing process, with ice crystals developing exclusively from the available water in the extracellular compartment and according to physical laws that govern the transformation of a liquid into a crystalline state. Under these conditions, in his opinion, a hypertonic solution gradually forms about the cells, producing, in effect, a local type of tissue dehydration with the cells simply collapsing between the ice crystals. Meryman discounted for the most part the mechanical factor of ice crystals rupturing the cells, and suggested that the principal cause of cell injury is biochemical, a result of the hyperconcentration of solutes (enzymes, carbohydrates, proteins, electrolytes and the like) in the tissues. In



Fourth degree frostbite *(A)* of both hands and *(B)* of both feet. Note bleb formation, ulceration and gangrene.

addition, Meryman pointed out that as the temperature is lowered more water is *frozen out, increasing, as it does,* the concentration of solutes surrounding the cells and also the potential for cellular injury; he indicated that in this manner the degree of cellular injury is progressive and proceeds with the time-temperature relation. In support of his theory he cited a number of well-documented experiments that describe cellular injury, altered protein structure, reduced enzyme activity and other dysfunctions of cellular life when the normal physiologic constituents [principally electrolytes] are increased by chemical or freezing methods. In addition, the Fuhrmans[1] have demonstrated, from oxidation studies performed on frostbitten tissue, that much of the tissue injury occurs during freezing or the early post-thawing phase.

Finally, Meryman, in explaining the vascular changes associated with frostbite, emphasized the fact that tissue injury occurs primarily during freezing; once thawing has taken place, the vascular changes described from transillumination studies, namely, slowing of the circulation, "sludging" and intravascular thrombosis, represent a complication of frostbite and are similar to vascular changes associated with other forms of tissue trauma. At the time of writing Meryman's explanation of the pathogenesis of tissue injury as observed in frostbite is most reasonable and appears to be most adaptable to practical therapeutic application.

Treatment.—The treatment of acute frostbite has been primarily concerned with the effect of (1) rapid thawing, (2) slow thawing, and (3) the application of cold on final tissue survival. In many reports, laboratory studies have shown beneficial as well as detrimental effects of each of these methods. Unfortunately, the laboratory experiments[12] have varied so widely that a valid comparison of data cannot be made. In general, the great bulk of data that has accumulated on this *subject indicates* (1) *that cold has little* therapeutic value and should not be employed, and (2) that rapid warming of the frozen part in a water bath at 43 C is the most satisfactory method of managing acute frostbite. The effectiveness of rapid thawing as a therapeutic procedure appears to be related to the shortening of the time during which the frostbitten tissue is exposed to a cold environment.[10] Still, there appear to be additional unexplained factors associated with rapid warming at this temperature, as increased tissue survival is not obtained when rapid warming is employed at temperatures a few degrees below 43 C.

For the most part, rapid warming at 43 C has been accepted as a beneficial form of treatment by a number of investigators.[13] Certain aspects concerning the controversy between rapid and slow thawing, however, require clarification. Meryman, and especially Hardenbergh,[13b] in comparing data from various experiments dealing with this problem, have pointed out that in those experiments in which rapid thawing was effective the extent and/or depth of tissue freezing, as well as the intensity and duration of exposure, were minimal. When these factors were increased, and principally with respect to their duration, tissue survival decreased. In a similar fashion, when the duration of the frozen state was increased, tissue survival also decreased. With these observations they have suggested that in frostbite there is a point at which tissue injury is irreversible, irrespective of the treatment afforded; and, in those frostbite experiments in which rapid thawing was ineffective, the methods employed in producing the frostbite lesions resulted in an irreversible injury. Furthermore, the temperature for thawing was, in some of these experiments, not the prescribed 43 C, In reviewing much of the literature directed to the treatment of frostbite, it is quite apparent that in frostbite there exists an extremely narrow zone between tissue survival and tissue death; and, in terms of organ resistance, skin is less susceptible to the freezing injury than is muscle, while blood vessels and nervous tissue are intermediate. Still, Meryman's approach to this problem seems quite reasonable, in that he considers frostbite a type of tissue injury, and, as is true in the management of any injury, removal of the causative factor is fundamental in early management. In frostbite, rapid thawing in a water bath at 43 C is directed to this end.

Other therapeutic measures have been employed, and to list them all would be difficult; those that have received most prominence in the English literature, however, are heparin,[14] rutin[15] (to lessen capillary fragility), *antihistamines*[15b] (histamine is presumably present in the cutaneous blebs of frostbite), cortisone[16] (to counteract the inflammatory reaction), the systemic use of vasodilators[17] and surgical sympathectomy.[18] In many experimental studies, tissue survival has been reported as enhanced by each of these agents and methods of therapy; in others, controversy exists as to their usefulness. During the Korean War, when frostbite was observed in large numbers of American military personnel, heparin, cortisone and vasodilators were used; the clinical results with respect to tissue survival, however, were not encouraging.[19]

The equivocal results of these drugs in cases of clinical frostbite, in contrast to reported successes in the laboratory, appear to be due to the manner in which they were employed in clinical situations; for in most experimental studies therapy has been initiated before or very shortly after thawing has taken place. During the Korean War, and in patients observed in the series here reported, frostbite was seldom, if ever, treated by physicians during the frozen state, and in most instances adequate medical therapy was not begun until thawing was complete, at which time the degree of tissue injury had been determined and the vascular sequelae of this injury fully developed. It is this point that deserves emphasis, i. e., applying experimental methods of therapy to identical clinical situations, and, as Meryman has pointed out, this factor has not been adhered to in cases of clinical frostbite when various experimentally tested therapeutic agents were employed.

In like manner, if rapid thawing at 43 C is to be employed clinically and with expected experimental benefit, it must be employed for a frozen extremity or to one in which thawing has just commenced. Once thawing has taken place and is complete, rapid warming is contraindicated; *the main problem at this point is that of ischemia resulting from intravascular thrombosis*; and, as Meryman has indicated, treatment at this stage should be directed to maintenance of circulation and prevention of further tissue injury, according to present concepts of wound healing. During the Korean War frostbite was managed in this fashion, and most authors[19] emphasized the use of antibiotics and the prevention of wet gangrene by employing dry dressing and prompt débridement once it occurred. In addition, they pointed out the value of waiting for demarcation to present itself spontaneously (sometimes as long as four weeks) before amputation of the involved area was undertaken.

One factor noted in the cases reviewed in this series deserves comment, namely, the fact that both patient and physician looked upon frostbite as a relatively minor injury, and only after unmistakable signs of tissue necrosis became evident was the seriousness of the injury realized. It would seem appropriate to prescribe bed rest as a necessary form of therapy to prevent further trauma, principally when the feet are involved—a feature of frostbite treatment that has not received the emphasis it deserves.

The use of systemic vasodilators and anticoagulants (principally heparin) for frostbite has been the subject of considerable experimental investigation;[20] as has been stated, however, the beneficial results are controversial. When these agents were employed during the Korean War, their effect in preventing or limiting the expected tissue loss was not striking. It would appear that, if heparin is to be employed to its fullest theoretical potential, it should be administered before intravascular thrombosis has taken place, and even then experimental evidence suggests that it may have little value. With respect to systemic vasodilators, Meryman's opinion is that their use may be harmful; hypotension frequently follows their administration, and when this occurs the blood flow to an already ischemic area is reduced. At present, data concerning the use of sympathectomy early in acute frostbite are limited primarily to experimental studies, and their results are inconclusive.

It is quite apparent, therefore, that the management of frostbite according to contemporary methods is inadequate. It appears, however, that current concepts of the immediate treatment of frostbite deserve reconsideration, as rapid thawing has been shown in experimental studies to offer considerable benefit with respect to preservation of tissue. Unfortunately, in clinical situations a frostbitten extremity is seldom seen by a physician in the frozen state. Nevertheless, it would seem practical to instruct persons whose occupations and geographic environment make them susceptible to frostbite in the rapid warming technic outlined in this paper. In like manner, members of police forces, ambulance personnel and those whose work may indirectly bring them into contact with frostbite, should also be instructed in the fundamentals of rapid thawing and in recognition of the inherent difference between it and nonfreezing cold injuries.

Author's Note: I wish to acknowledge the suggestions of Harold T. Meryman, M.D., Naval Medical Research Institute, National Naval Medical Center, Bethesda, Md., in the preparation of this paper.

ZUSAMMENFASSUNG

Es wird ein kurzer Ueberblick ueber die pathophysiologischen Verhaeltnisse bei Frostschaeden mit Anmerkungen ueber die Behandlung gegeben. Wenn auch die umfangreiche Literatur auf disem Gebiet leicht zu Verallgemeinerungen fuehrt, so scheint sie doch stark anzudeuten, dass [1] ein erheblicher Anteil der mit dem Frostschaden einghergehenden Weichteilveretzungen und Nekrosen waehrend der Erfrierung des Gewebes auftritt, und dass [2] die nach dem Auftauen beobachteten Gefaesstoerungen, die sich hauptsaechlich als Thrombosen innerhalb der Gefaesse erkennen lassen, als Komplikationen der Schaedigung angesehen werden muessen.

Dementsprechend richtet sich die Behandlung des Frostschadens auf die zuerst beobachteten Stadien. Wenn das Gewebe gefroren ist, besteht die wirksamste Form der Behandlung offenbar in rascher Erwaermung in einem Wasserbad von dreiundvierzig Grad Celsius. Wenn Auftauung eingetreten ist, ist rasche Erwaermung kontraindiziert und sollte sich die Behandlung auf Erhaltung der Zirkulation der aufgetauten Teile richten, wobei die Wundversorgung nach den allgemeinen Grundregeln der Wundheilung mit besonderer Beachtung der Verhuetung einer Infektion und weiterer Gewebsverletzungen erfolgt.

RÉSUMÉ

Une brève étude sur les aspects physiopathologiques des gelures est présentée,

accompagnée de commentaires quant à leur traitement. Bien qu'une littérature abondante tende à la généralisation, il en ressort: 1) qu'une grande partie des lésions tissulaires et nécroses associées aux gelures, se produisent durant la congélation; 2) que les séquelles vasculaires notées après la décongélation et se manifestant surtout par des thromboses, sont considérées comme des complications secondaires.

Le traitement des gelures s'adresse donc aux stades visibles en premier lieu. En cas de congélation tissulaire, un réchauffement rapide dans un bain d'eau à 43° C, semble être la thérapeutique la plus favorable. Mais celle-ci est contre-indiquée lorsque la décongélation s'est déja établie; le traitement doit alors viser à maintenir la circulation dans la région décongelée, en prodiguant à la plaie les soins habituels, et en veillant à prévenir l'infection et à éviter tout traumatisme tissulaire supplémentaire.

RESUMEN

Se presenta en este trabajo una breve revisión sobre lós aspectos fisiopatológicos de las congelaciones así como su tratamiento. Aunque la extensa literatura referente a este problema ha generalizado bien su conocimiento el autor insiste en 2 puntos: (1) la mayor parte del tejido lesionado y la necrosis concomitante ocurre durante la fase de congelación; (2) las secuelas vasculares ocurridas durante la descongelación y cuya manifestación principal es la thrombosis intravascular son consideradas como complementos de esta lesión. De acuerdo con lo dicho el tratamiento de la congelación debe dirigirse de —en relación con la fase en que se comienza. En presencia de tejido do congelado el calentamiento rápido en agua a 43° parece ser la forma terapéutica más beneficiosa. Una vez que ha tendio lungar la descongelación el calentamiento rápido está contraindicado y el tratamiento debe dirigirse a mantener la circulación en parte deshelada tratando la lesión de acuerdo con los principios del tratamiento de las heridas e insistiendo en la profilaxis de la infección y en evitar ulterior traumatismo de los tejidos.

SUMARIO

Revê aspectos fisiopatologicos das congelações e comenta o seu tratamento. Deduz que (1) muitas das lesões dos tecidos ocorrem durante a congelação e (2) as sequelas vasculares que surgem depois, principalmente por trombose intravascular, são consideradas complicações.

O tratamento consequentemente deve ser orientado conforme o estadio da lesão. No resfriamentos os tecidos devem ser aquecidos em banhos á 43°C. Na fase de mortificação o aquecimento é contraindicado e as medidas são aquelas proprias á cicatrização principalmente para prevenir a infecção e aumento de traumatismo aos tecidos.

RIASSUNTO

Viene presentata una breve rassegna degli aspetti fisiopatologici del congelamento e uno schema per la sua terapia. Viene messo in rilievo il fatto che molte delle lesioni tissurali e la necrosi si verificano durante il raffreddamento dei tessuti e che le trombosi vascolari che si verificano dopo il disgelo debbono essere considerate come complicanze di detta lesione.

In accordo con ciò il trattamento deve essere diretto a seconda del momento in cui si osserva la lesione: quando è presente il congelamento dei tessuti la terapia più efficace è rappresentata dal riscaldamento rapido in un bagno di acqua a 43 gradi. In fase di disgelo il riscaldamento rapido è controindicato e la cura deve essere diretta a mantenere la circolazione nelle parti interessate, mentre la perdita di sostanza verrà trattata nella maniera

usuale con la prevenzione della infezione ed evitando ogni nuovo trauma ai tessuti.

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I cannot tell you how to make a diagnosis, but in your review of the facts as you collect them and when you have assembled them, two questions will be passing through your mind: "What is the anatomical site of the trouble?" and "What is its pathological nature?" A correct reply to either question will go a long way to answering the other, for each organ or tissue has its own diseases, and each type of disease has certain sites of election. If you are certain that a swelling in the neck is an enlarged cervical gland, you have, for practical purposes, only to distinguish between chronic sepsis, tuberculosis, Hodgkin's disease and secondary malignant disease in order to make a diagnosis. If the swelling is a cold abscess, the site of its origin will be either in the glands or the cervical vertebrae. Bear these two questions in mind throughout. The history may answer one or the other. The characters of the pain will, for instance, in many cases, indicate unmistakably the site of its origin; its anatomical distribution may point clearly to the kidney or one of the peripheral nerves, its association with food to the stomach, or with micturition to the bladder. The history again may indicate the nature of the lesion; progressive loss of weight, strength and colour without any other symptoms in a man of fifty suggest a cancer somewhere in the abdomen, and our thoughts turn to stomach and colon; intermittent severe colicky pain suggests a mechanical obstruction, a constant dull ache points to an inflammatory lesion; in each case if we have already deduced the organ involved, our choice of diagnosis lies within narrow limits.

—*Ogilvie*

Radiation Surgery with Precision Controls, A New Approach to Carcinoma of the Bladder

Preliminary Report of Two Cases

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CARCINOMA of the bladder is a specific tumor in the whole malignancy picture which ranks high among those most difficult to treat. For sheer therapeutic complexity it is the Number One anathema to the clinical urologist.

It is time for hard questions with hard factual answers:

"In the last decade of massive research, what practical ready-to-use tool has been given the clinical urologist to advance significantly therapeutic management of the whole problem?"

The answer: "Not a single such tool."

The next question: "With full recognition of surgery and radiation constituting the only effective attack on carcinoma to date, what is the probability of the above aim being accomplished in the near future, if the present trends in both specialties are continued?"

The answer: "The evidence is that such a probability is practically nil."

Frankly, the status of both specialties is that of containment within self-limiting orbits. Surgical intervention loses effectiveness after tumor cells have penetrated a resectable normal tissue buffer, and no amount of extra effort can actually reverse this loss. Irradiation is limited by the impossibility of accurately controlling the dose to the tumor while protecting contiguous vital structures, and depends, therefore, largely on the therapeutic index afforded by the differential radiosensitivity of malignant versus normal cells. This has remained essentially unchanged by the addition of isotopes and high voltage sources.

The obvious implication is that a new approach may result from a more critical analysis of the present therapeutic en-

The author outlines a new approach to the management of carcinoma, designated as "radiation surgery with precision controls." Carcinoma of the bladder, which is notoriously difficult to treat, was selected to test the validity of the concept, and the clinical results in 2 cases demonstrate its success. In the author's opinion the potential of the new method is considerable, and its adoption and application over a wide field will be facilitated by the simplicity of the devices required in its use.

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vironment and a reduction of this environment to basic elementals, as follows:

1. In spite of superficial liaison, there has been no real integration of surgical with radiologic treatment or vice versa.

2. *Complete union* of the two specialties, as with a chemical reaction, would not be mere addition. The results would differ in *quality*, just as two gases through chemical union may produce a qualitatively different end product in the physical form of a liquid. The addition of the same two gases without molecular union results only in more of the same form (gas); i.e., a *quantitative* result.

3. The surgical environment, especially that involving the physical sciences, is ripe with new material. The polymer chemist and the radiation physicist offer a new world of material with medical potential, but it is up to the profession to take the initiative, for surgeons are the exclusive practitioners of the science of surgery.

The following, therefore, describes the initial phase of integrating surgery, radiology and the physical sciences into a single unit of equal partnership. Application of this possibility to carcinoma of the bladder provides a formidable testing level for the infant concept.

Precision Controls in Radiation-Surgery.—The degree of scientific advance is largely measured by the trend toward precise measurement, isolation of variables, controls, deepened understanding of cause and effect and increasing predictability of results.

To make one point clear, the science equates itself against itself for signs of progress. The degree of permissible error in a technic labeled "precise," would be laughable by the standards of the physical scientists. Here, however, it is an appropriate term.

Actually, this situation is fortunate; otherwise the concept of surgical precision would be highly impractical. The fortunate aspect lies in the smaller size and greater flexibility required of measuring devices as the requirements for absolute precision lessen. This permits easier adaptation to surgical needs.

The approach incorporates several surgical "firsts," or innovations, plus the utilization of all pertinent past technics. Application of new concepts, such as internal shielding and internal dosimetry, open many new ancillary technics of control. It is the totality of these plus those already established which permits operating on a level unattainable in the past. This point is important to a perspective distinguishing the new approach from its partial applications in the past, which have only a superficial similiarity.

For the purposes of immediate and widespread practical application the technic was devised to require only the most common source of radiation therapy now available to the small institution, namely, the roentgen therapy tube. The specific controls, as listed, are limited by reference to the moderate voltage roentgen tube.

Specific controls now considered applicable are included in the following list:

Internal Dosimetry: This term designates a technic of precision measurement of ionizing radiation directly applied to internal structures by surgical means (as opposed to limited use, such as insertion through a natural orifice). Actual depth doses of both target and normal tissue loci provide a control check on calculated doses.

Internal Shielding: This consists of the introduction of a shielding device *internally* by the surgeon. Thus a target area is defined, and vital areas are protected by two shielding methods, as follows:

a. *Distance Shielding.* This provides the safety factors of increased parallax, removal of contiguous strictures from the radiation field and use of distance to provide safety through calculated falloff in depth. Distance shielding is regulated by surgical cleavage planes.

b. *Absorption Shielding.* The total mass and distribution of the solid shield is known. Solid material is adaptable and malleable. Liquid absorption shielding will assume the shape of its container. The exact mass is known. The shape may be altered by container, gravity, or compression. Changes in mass and shape are easily made without entering the sterile field.

Direction: The therapy tube is guided by direct vision of anatomic structures. It may be altered to prevent concentration, or to effect better distribution of the dose.

Target Controls: The tumor mass may be compressed for uniformity, isolated, molded to optimal shape, shifted or retracted, precisely measured in three dimensions and reduced in size, as indicated. Exact units of dosage to tissue at all loci may be calculated; there is direct tube contact, and all relations are fixed or controlled. A check of pretherapeutic relation involves only a lateral roentgenogram.

Radiation Source Controls: Varying the type of irradiation with the situation or technic, lessening the duration of therapy with a closer source, calculating distribution with multiple sources having fixed relations and directional controls, are all possible. One is enabled to reduce the total body absorption of radiation and to reduce or diffuse concentration on nontarget tissues. Therapy now may be started or stopped at will for dosimetric procedures and checks on the patient's condition.

Tissue Therapy Controls: There is wide latitude of safe therapeutic dosage as a result of the controls aforementioned, plus surgical drainage. The exact amount of radiation delivered to vital tissue is known, and a controlled base for possible subsequent radiation is established. Externalized tissue may offer direct histologic check.

Precision Radiation Surgery and Qualitative Advance in Therapy.—Specifically, then, what in the management and results is qualitatively different about the new approach as compared to present technics?

To enumerate some vital differences:

The controlled situation allows for single-shot therapy with the patient under anesthesia, as part of the operation, and this approaches certainty of destruction of tumor mass and safety of vital tissue more closely than ever in the past. The factor of discontinuous absorption of radiation loses significance as total target destruction by a single massive and overpowering dose becomes safe and practical. The predominance of guesswork is taken out of tumor dosage and normal tissue irradiation. Single precision doses may now be calibrated and related to tissue response.

The therapeutic index undergoes enormous expansion. The differential cell principle does not set the index limits. Terms dependent upon past therapeutic indices and other binding factors now have no real frame of reference, hence no real meaning; for example, "a radioresistant tumor."

Surgical integration can liberate some attitudes again bound by past limitations. An example is the significance of slough with surgical drainage versus underdosage and residual viable tumor cells. The radiologist's fear of slough, once appropriate, must be reevaluated downward when necrotic tissue is adequately drained.

Results are not dependent on equipment for radiation therapy that is unique or not available in the average hospital. The procedures must be adapted to this without delay. More specific equipment will assure superior technics, but all statements about present application refer to what is *now* available.

No amount of high voltage equipment, isotope forms, or any other exclusive devices can approach duplicating these results. This means that the average local hospital is now in a position to do far more for patients with carcinoma than can be offered by the large metropolitan medical center which uses only conventional technics, superior equipment to the contrary. This is not to say that imaginative application of the superior facilities to the principles of precision radiation surgery would not further enhance its potential.

Prolonged massive surgical resection can be replaced by destruction *in situ*. For future reference, this will include sterilization of lymphatic chains. Also, the destruction *in situ* will come nearer completion than does surgical dissection. This is best seen where the limits of resection are set by danger zones, such as large vessels. Precise fixed relations as sources of radiation can be placed to this point or beyond, and destruction of tumor cells further extended by utilizing the differential cell principle in a marginal zone.

The limits of the approach are set by gross ocular estimation of involved tissue. This is advanced beyond the absolute surgical limit by the additional zone using the differential cell principle. Regardless of subsequent refinement in technic, if this limitation remains, the concept can in no way be construed as ultimate or referred to as a "cure," the more nearly accurate term would be "approach."

The principles appear applicable to all parts of the body as determined by the surgical specialist familiar with the problems of the area. Obviously, different systems, areas and situations will gain varying benefit; but more refined technics should be awaited before application is ruled out even in the most difficult locations.

Subsequent radiation therapy will start with a record of exact exposure of vital tissue.

Overall absorption of radiation by the patient is greatly reduced.

The complications and pain of radiation therapy are reduced. The total amount and delivery time of such therapy is reduced and contracted into the one-shot dose measured in minutes.

General apprehension over one-shot therapy is not realistic, considering accurate measurement and controls. The situation is incomparably safer than divided-dose therapy as conventionally administered. Superior controls are reassuring to both the patient and the medical team.

In spite of the limitation stated, annual death rate and pain could be appreciably reduced through widespread application, for reasons more indirect than direct. Discussion of this situation is deferred to the future, in order to confine this paper to the minimum length required for the reader's comprehension.

Refinements in technic, now at the blueprint stage, will offer advantages well over and above this initial application. Again, however, the scope of this paper limits discussion as to what is immediately applicable.

Preliminary Planning of Technic.—Diversion of urine must precede radiation therapy.

In the work on which this article is based, the shielding material for absorption was lead sheets of varying sizes, 1.5 mm. thick, malleable, covered and padded.

The possibility of soft secondary rays where heavy irradiation strikes the lead surface, producing irritation in contiguous tissue, was ruled out by interposing 1/16 inch aluminum plates.

Some lead shields in appropriate areas were supported by retractors; in other instances the weight was of value (over-padding) in depressing vital tissue contents away from the tube, such as in the pelvic brim.

Preliminary phantom studies on a skeleton gave satisfactory results. Less than 10 per cent of the single-source dose

(1,700 r) penetrated minimal lead shielding to the rectal area.

Dosimeter film (DuPont, type 558) had to be protected from pressure points, moisture and grossly incorrect angulation. Correction was made for elevation of temperature. Sterilization with ethylene oxide was observed not to alter the film. The film was so placed as to touch the tissue to be measured and was protected from metal and secondary scatter rays with padding. Plans were made to attempt placing the surface of the film as close to a right angle with the axis of the radiation beam as was practically possible.

It was incumbent upon surgical measures to adapt themselves to existing radiation equipment, as the latter was more or less fixed. Planning included movement of the patient from the operating room to the roentgen therapy room.

The exact dose to be given was questionable. The fact that the single dose has far more killing effect than divided doses was known, but the exact ratio was conjecture. A dose of 1,700 r was selected for the initial case.

In addition to this, the critical tolerance of vital tissue also was considered appreciably reduced in the one-shot treatment, the exact ratio again being conjecture.

Stringent criteria were set for shielding protection, the goal being 10 per cent or under of the dose delivered. This could be varied with the case, and raised, for instance, when there had been no previous exposure to radiation. One could scarcely expect virgin bladders, however; on the contrary, the initial cases are likely to be those in which all other measures have been tried and have failed. In such cases, for a good margin of safety, it must be supposed that vital tissue has taken doses near capacity, and the very least additional irradiation the better.

REPORT OF CASES AND DEVELOPMENT OF TECHNIC

CASE 1.—A 55-year-old man was selected as a patient excluded from any satisfactory alternative. The history included that of widespread recurrence of a vesical tumor after previous procedures. The recurrent growth was now beyond any control by conservative surgical means. Extreme pain, strangury, hematuria, frequency of urination and pyuria developed. One kidney had been resected. Severe chronic asthma complicated multiple allergies. To this was added arrested pulmonary tuberculosis.

No traumatic operation or prolonged Trendelenburg's position could be considered, as the patient was in chronic low-grade anoxia, with marked air hunger. He had undergone no previous irradiation.

He was given all details concerning his status as the first application of the new procedure. Consent was recognized only with full acceptance, an optimistic mental attitude being considered essential in all cases, but especially initial cases.

*Technic**: Instrument System 1 was built to transport the patient, with a fixed patient-table relation, to the therapy room.

A routine dissection plane was made to separate the rectum from the prostate and bladder. The space developed was 8 cm. deep, 5 cm. wide and 7 cm. high. It was filled with 19 mm. of lead shielding, aluminum plates, padding and plastic-covered dosimeter film, the latter placed next to the prostate and trigone, and behind the shielding, in front of the rectum.

Through an abdominal incision the edge of the wound and the small intestines were retracted and shielded, as was the pubis. Free padded lead plates were applied to the pelvic floor, depressing and covering the rectosigmoid and its dosimeter film. The bladder was molded into a target within a container. The dosimeter film was applied to the skin, small intestine, pubis and depths of target tissue. The tumor mass was 6.5 cm. deep.

The area was covered with sterile drapes and the patient taken to the roentgen therapy room.

A sterile therapist covered the therapy tube with sterile aluminum foil and directed the tube at an angle to cover the target. Contact of the tube with tumor tissue was assured. A sagittal section of the area, diagrammatically illustrated, is seen in Figure 1. Note how the skin, pubis, small intestine and major portion of the pelvic floor are protected from all but minor exposure by being excluded from the therapeutic beam.

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*Operation performed at St. Clare's Hospital, New York City, on May 2, 1958.

The patient was given 1,700 r from a 50 cm. source (200 K.) in twenty minutes.

He was returned to the operating room for wound closure with drainage.

The patient progressed well, and his asthma and vital capacity were greatly improved. There were no signs of local tissue damage to any vital structure, the rectum included. There were no systemic signs of radiation effect.

Ten days after therapy, a pathologic specimen showed a pronounced effect from radiation, with a major part of the bladder wall fibrotic. There never appeared any necrosis or slough, but the bladder contracted a capacity of one-half ounce.

Five months after the operation rectal examination revealed a normal rectum and a small, practically absent prostate. No impotence resulted.

The general condition of the patient continued improved, including skin color, vital capacity, absence of asthma and a marked gain in weight.

Critical Evaluation of Technic 1.—Although the goals were accomplished, there were several glaring deficiencies in the technic.

The instrument system was cumbersome and inefficient. There was also a lack of flexibility to accommodate all changes of roentgen therapy tubes.

Shielding protection was more than adequate, but, with a tumor depth of 6.5 cm. and a single source, the distribution was considered substandard, good present

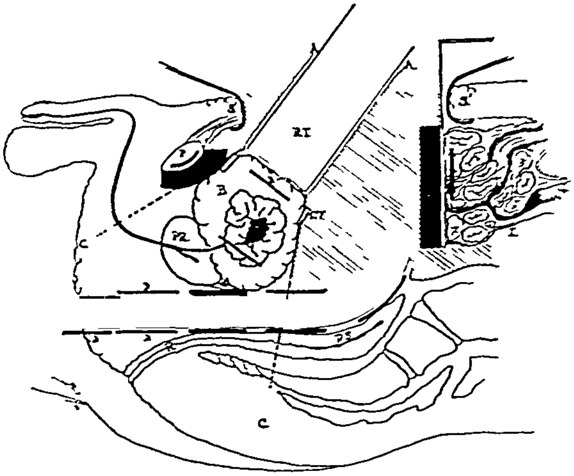

Fig. 1

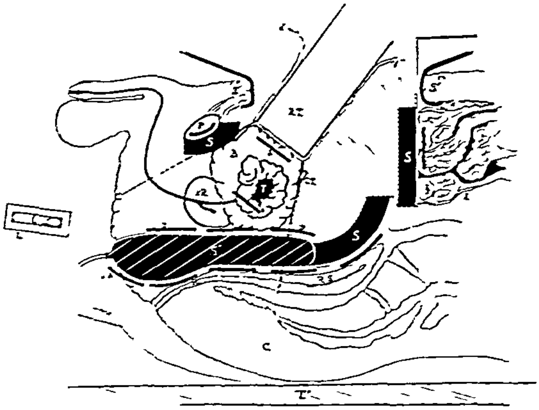

Fig. 2

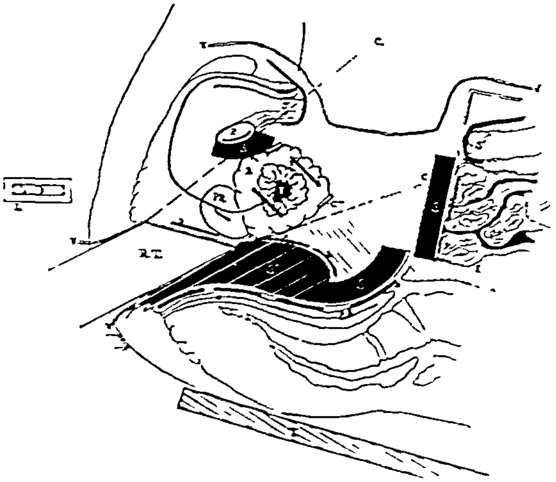

Fig. 3

Figs. 1, 2 and 3.—*A*, aluminum foil sterility barrier; *B*, urinary bladder; *C*, limits of radiation beam; *C.T.*, tumor mass container; *D*, dosimeter film; *I*, intestine; *L*, level; *P*, pubic symphysis; *Pr*, prostate, *R*, rectum; *R.S.*, rectosigmoid; *R.T.*, radiation therapy tube; *S*, absorption shielding (lead); *S'*, skin at wound edge; *S''* absorption shielding (mercury); *T*, tumor; *T'*, table, and *V*, vinyl sterility barrier.

results to the contrary. The dose at the very bottom of the tumor was little more than one-quarter that at the point of contact with the tube. Biopsy specimens, showing complete fibrosis in ten days, were taken at midtarget depth.

Maintaining operating room standards of sterility is extremely difficult when the field must be exposed in a nonsurgical environment and entered for manipulation, and with the therapy tube overhanging the field.

Solid shielding was unsatisfactory in the perineal area, for three reasons:

1. Continuous pressure against local vessels and tissue is present during a good portion of the operation, since this shield is the first applied and abdominal preparation follows. This was considered hazardous, as possibly tending to cause tissue ischemia and possibly venous thrombosis.
2. Continuous pressure was exerted against the dosimeter film.
3. There was no way to accommodate a second perineal source of radiation.

Rationale and Planning for Technic 2.—Before a second application was attempted, time was taken to build an entirely new and improved instrument system to fill the deficiencies found in the first. These systems, being homemade, involved two-month delays, even with the work proceeding continuously and at top speed.

The second system was constructed entirely of aluminum and included the following items:

a. A special table built on an accordion principle to adapt in length and to changes of position (lithotomy).
b. Special instruments to manage shielding and retraction, so designed as not to limit the maneuverability of the therapy tube. These were all constructed to be held in a systematized fashion, within a container of autoclavable size.
c. Special devices to manage liquid absorption shielding.
d. Devices for simplified molding and containment of the tumor mass.
e. Precision position control. A principle was used by which stirrups slide on a transverse bar and all relations are fixed for instant reassembly.

These measures were necessary in plans to use a double source of radiation. The double source promised the following advantages:

1. Uniform tissue dose distribution. Although higher voltage would give better distribution than in Technic 1, it would be unsatisfactory on many counts where the double source was applicable. These included the facts that high voltage tubes are restricted in number and that the less abrupt falloff, which gives better distribution, also penetrates the shielding more, and concentrates on vital areas for the entire dose.
2. The source could be moved closer without appreciably impairing precision distribution, since the latter could be accomplished in any case by calculation with known factors. The advantages of this are that the time required for delivery of the dose is reduced inversely by the square of the distance; more abrupt falloff increases shielding effectiveness; concentration on vital tissue areas is approximately halved, and the total body absorption of radiation is decidedly reduced, as approximately half the dose finds exit through an open wound after passing through the target tissue.

Several problems were anticipated. One of these was alteration of the surgical perspective established in the operating room by repositioning in the roentgen therapy room. To prevent this, a locking mechanism fixed both stirrup positions. The entire device was removable, as a rigid unit, for instant reapplication. The transverse bar principle not only stabilized the whole unit but offered an adequate solution to the management of excess drapes complicating both fields with every position of lithotomy plus an open abdomen.

Mercury was considered the ideal liquid absorption shielding. It could be easily heat sterilized, and it would fill an area completely, without spaces reducing total absorption as occurred with solid material. There would be no danger of irritating secondary rays. Other advantages will be noted in the description of the technic used.

Fortunately, a new cold sterilizing agent (ethylene oxide) permitted easy preparation of plastic sheeting. A sterile plastic sheet placed over the wound would maintain operating room sterility throughout transportation to the roentgen therapy room.

CASE 2.—A 41-year-old man was selected, also for lack of any satisfactory alternative.

The patient presented a history of recurrent malignant disease of the bladder of three years' duration. Previous procedures, including two suprapubic segmental resections, with fulguration and radon seed implants (6 seeds on the dome, June 25, 1957), had been done. Eventually all control, even palliative, was lost to such measures. Painful symptoms of generalized involvement of the bladder wall and capacity reduction became increasingly severe.

The patient's mental outlook remained healthy, as some optimism returned with full understanding of his situation and the possibility of a new alternative.

*Technic**: The perineal dissection plane between the rectum and the tumor tissue mass (prostate and bladder) was easily determined. Into this plane was fixed a small subtrigonal plate to raise the tumor tissue mass uniformly on pressure from below and to establish a limiting surface for precise measurement of the depth of tumor tissue. Raising the tumor tissue mass aided abdominal irradiation. In addition, a shaped container overlay the collapsed rectum. Within this was placed a double balloon, rubber and plastic, deflated and with a connecting tube. The double layer insured against tissue contact with mercury if the inner rubber balloon were accidentally broken. The shaped container controlled the configuration of the mercury level to the desired needs; otherwise the extreme density would pool the shielding, depending upon floor resistance. The metal container also gave the true measure of angulation with the horizontal, as opposed to dependence on table surface position. Table surface position may or may not reflect the actual level of the dissection plane; therefore, management of the shielding by tilt and gravity depended upon the level as related to the mercury container only. The perineal wound was covered with a plastic sheet, with the balloon tubing issuing from the surgical area and over the thigh for easy filling.

After the perineal stage, the abdomen was opened and prepared in a manner similar to that employed in the first technic. Containment of tumor tissue was managed, however, by much lighter and more flexible devices. No mercury was used abdominally, for several reasons of safety, and all shielding was accomplished with padded, malleable lead plates and distance. When preparation for radiation therapy was completed, the open and retracted abdominal wound was covered with a large sheet of sterile plastic. The edges of the sheet were secured well beyond the surgical area, with considerable redundancy left to allow for actual manipulation of the surgical field through the intact plastic barrier. The usual drapes covered the plastic, and the unit moved as a whole to the roentgen room.

Roentgen therapy was carried out by a double source as planned, except that the source remained at 50 cm. for lack of calibration at shorter distance, and instruments limited flexibility in the abdominal delivery.

Figure 2 demonstrates the situation at the time of abdominal delivery. Note how tilting is used to increase shielding over the area receiving maximum radiation. In this case 100 cc. of mercury was introduced immediately before therapy and released immediately after.

The tube (10 cm. in diameter) was directed uncovered and unsterile to the point of tumor tissue contact, only the plastic sheet intervening. The depth of the tumor tissue mass was known to be 6 cm. and the tissue density uniform; or, more accurately, the mass contained no spaces representing marked changes in density (as with air).

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*Operation performed at St. Clare's Hospital, New York City, on June 21, 1958.

After the abdominal dose had been delivered, the transverse bar stirrups were locked to the table as a single unit and the lithotomy position of the operating room exactly duplicated.

The dissection plane was tilted opposite to the first, producing a slight Trendelenburg's position. This increased the mercury shielding in the cephalad direction, increasing the barrier appropriate to shielding requirements. The subtrigonal plate was removed, which allowed the tumor tissue mass to drop down as an easier target. A beveled tube was used to give greater protection to the vital tissues (intestines) lying cephalad. The tube was directed, uncovered and unsterile, to the plastic-protected target. Compression of the mercury bag by the tube automatically created heavy shielding of an exact shape. The tube was aimed to include the whole target, with the major part of the radiation hitting the target tissue only and leaving through the open abdominal wound. Figure 3 demonstrates these relations in sagittal section.

After irradiation was completed the mercury was drained and the patient returned to the operating room for completion of the operation.

Critical Evaluation of Technic 2.—Compared to Technic 1, this technic constituted a great advance. Before the positive features, however, the need for further refinement was again evident. Among these was reduction, to the least possible degree, of the movements of the patient during transportation; the closest approach possible of the therapy tube to the patient's body surface, and greater flexibility in the management of ancillary equipment. Close approximation of the therapy tube to the body is vital to obtaining target contact with a closer source.

The plastic sheet proved highly satisfactory. Its transparency permitted checking the wound setup while keeping the same sterile field obtained in the operating room entrapped beneath the plastic. Allowing some redundancy of the plastic sheet permitted a surprising amount of manipulation barehanded, as well as unsterile handling of the tube placed in contact with the tumor mass. More than this, the redundant plastic even allows the addition of more lead to increase or alter the shielding of certain structures. The advantages are still greater, for the plastic provides some support against dead weight; retraction may be carried out, and there is no fear of toxicity or contamination.

The use of liquid shielding, to which mercury is the key, was also highly gratifying and opened a challenge to more ingenious applications. Great caution is in order when open, dependent drainage cannot be carried out in the event of spillage. The property of the mercury to fill the dissection plane, elevating the superior surface and separating the walls, has the added values of gentleness and uniformity of pressure. Pressure distribution is as important dosimetrically as it is to tissue preservation. The impression is that the surgical potential of this material is still almost untouched.

The most important features of Technic 2 lie in the radiation therapy itself. The double source offers far more versatility and safety.

An examination of some extraordinary results from primitive beginnings yields the following facts:

A dose of 1,700 r was given abdominally, followed by 1,020 r per perineum; the total dose amounted to 2,720 r. The delivery time was forty minutes.

Precision measurement of the radiation absorbed by the anus, the rectal ampulla, the proximal portion of the rectum and the rectosigmoid showed the average exposure to be 90 r, or *less than 3 per cent of the delivered dose.* The average dosage through shielding to other vital tissues *was less than this.*

Precise calculation of the dose received by each layer or depth of target tissue yields figures showing amazingly uniform distribution. The margin of error for these figures now justifies the exactness indicated. For example, this 6 cm. deep lesion received the following dose to target tissue at each centimeter level:

0 centimeter (contact at abdomen)	2,067 r
1 centimeter	2,125 r
2 centimeters	2,081 r
3 centimeters	1,931 r
4 centimeters	1,998 r
5 centimeters	1,960 r
6 centimeters	1,950 r

Thus it is possible to state with accuracy not only the total dose delivered to the target but the precise depth dose. In contradistinction to reports that state *only the dose delivered to an internal target: the statement here includes the exact dose and distribution, and justifies precise figures; the dose reported by conventional methods is an assumption of approximate range, a situation that does not justify a precise statement of the target dose received.*

To add fascination to interest, exteriorization of the bladder wall permits a real microscopic check on the effectiveness of this single shot. The section exteriorized was a broad flap with adequate circulation, fixed without constriction to a separate wound edge. The top, or apex, of the triangular flap represented the bottom, or 6 cm. depth, of the target, and the base was the contact point of the abdomen with the tube. The linear dimension of the flap, therefore, represented the depth dose to the whole target.

Only one day after irradiation there developed in the exteriorized bladder a blackened or burned appearance. This became progressively deeper. Biopsies on the third, fifth and seventh days showed progressively severe inflammatory changes in all layers. On the eighth day the tissue became a black liquid slough.

The patient's course added meaning to this:

First of all, with adequate drainage and antibiotic irrigations, the results of slough appeared no more significant than abscess drainage. There was no systemic reaction; there was no local reaction.

Relating this to the terms in current use results in a new perspective. I did this before on a theoretical level, but now I have clinical confirmation as a level test.

1. A systematic study of the reaction of human tissue to a one-shot dose is needed. This concept offers a means of relating the exact dose to the microscopic changes observed. To this is added a means of studying the phenomena of tissue resistance to irradiation with accuracy.

2. From the initial study, the sloughing dose would appear to be somewhere between 1,700 and 2,125 r. This range can hardly be considered general as yet, full cognizance being given to preexisting variables.

3. The fear of slough on the part of the radiologist has its basis in the lack of controls. Without surgical drainage, and with probable involvement of essential tissue, this is not hard to understand. The term "slough" does not carry the same impact when surgical drainage and control are employed. The perspective now is more correctly stated thus: "Better an overdose and slough than remaining viable tumor cells."

One factor of concern was the possibility that uncontrolled hemorrhage might accompany slough. My impression is that preliminary thrombotic phenomena give protection, but I am not prepared to make a definite statement this early.

4. Impotence did not occur in either case. This is significant with regard to a complication having uniform incidence in association with total cystectomy. The return of full function uncomplicated by factors in convalescence, however, must await further study.

5. Another outdated word, along with "slough," is the term "radioresistant." As a limiting term it has no meaning within our new concept, for no tumor is resistant to the involved organ sloughing dose, which we may safely deliver at will.

Rationale and Planning of Technic 3.—In process is the construction of a third instrument system. As was predictable, the trend is toward simplicity for greater efficiency. Immediate application to conditions in the clinician's own hospital requires only easily prepared devices for general distribution.

Planning Advanced Technics.—Specific plans already exist for devices to manage the deficiencies of tube therapy. This includes the problems of limited or absent shielding space, gross metastases, ill-defined unresectable tumor masses without shielding planes and the setting up of an unanticipated tumor mass when radiation and radiologist are not available. Such devices would insure that precision controls still prevail, and that postoperative precision irradiation will be effective without pain or further surgical intervention. The trend is toward new principles of design: simpler, lighter, far more effective and easily mass produced.

Compared to the problems associated with carcinoma of the bladder, the management of prostatic carcinoma by this approach would appear less difficult. As a very common male malignant condition, this deserves mention. Every other tumor site and situation presents a challenge to ingenuity with this new tool.

Although instrument system 3 is in progress, further conjecture is in the realm of technics untried. To keep extrapolation to a minimum, this statement about the future is here terminated.

SUMMARY

A new approach to the management of carcinoma is outlined, the technics of application given the descriptive name "radiation surgery with precision controls."

Carcinoma of the bladder was considered a good level test for initial application, representing a specific tumor that is difficult to treat. The clinical results in 2 cases prove the concept valid.

The development of simplified devices gives promise of immediate use by the average surgeon-radiologist team, since technics have been so devised as to require only average, common facilities for just this purpose.

"Radiation surgery with precision controls" is a new approach with considerable potential. The principles have general application and are not necessarily restricted to any one system. It represents a totality of new and old technics, a complete integration of these being required to effect the predicted results. This is clearly defined against past measures superficially similar but merely partial, and therefore incapable of approaching the results or potential of this new approach.

ZUSAMMENFASSUNG

Der Verfasser beschreibt einen neuen Zugang zur Krebsbehandlung mit einer Technik, der er den Namen "Kombinierte Strahlen- und Chirurgische Behandlung unter genauer Ueberwachung" gibt.

Der Blasenkrebs wird, da er eine spezifische aeusserst schwierig zu behandelnde Geschwulst darstellt, als ein gutes Objekt zur anfaenglichen Pruefung der Methode angesehen. In zwei untersuchten Faellen haben die klinischen Erfolge die Richtigkeit der Auffassung des Verfassers bestaetigt.

Die Entwicklung vereinfachter Apparate berechtigt zu der Hoffnung, dass dieses Verfahren bei der durchschnittlichen chirurgisch-radiologischen Arbeitsgruppe sofort Aufnahme finden wird; die Technik ist so eingerichtet, dass die ueblichen durchschnittlichen Ausruestungen

ihre Durchfuehrung gestatten. Die Grundsaetze der Behandlung sind allgemein anwendbar und beschraenken sich nicht notwendigerweise auf ein Organsystem. Das Verfahren stellt eine Ansammlung alter und neuer Techniken dar, die zweckmaessig miteinander verbunden sein muessen, um die vorausgesagten Ergebnisse zu erzielen. Die Methode unterscheidet sich deutlich von frueheren Verfahren, die nur oberflaechliche einzelne Aehnlichkeiten mit ihr aufweisen und keine Aussichten haben, Ergebnisse zu erzielen, die sich mit denen des neuen Zuganges vergleichen lassen.

RÉSUMÉ

L'auteur décrit une nouvelle technique de traitement du carcinome qu'il désigne du nom de "traitement chirurgical-radiologique avec contrôles de précision."

Le carcinome de la vessie est considéré comme un bon test pour l'application initiale de cette thérapeutique, du fait qu'il s'agit d'une tumeur spécifique extrêmement difficile à traiter. Les résultats cliniques des deux cas étudiés prouvent la valeur de cette nouvelle conception.

La création de moyens techniques simplifiés permet d'espérer l'utilisation immédiate de cette méthode par la moyenne des équipes chirurgicales-radiologiques, car elle a été conçue à l'intention des centres disposant d'un équipement courant. Les principes exposés ont une application générale et ne sont pas nécessairement restreints à un système donné. Cette méthode représente une cumulation de techniques anciennes et modernes, une combinaison de celles-ci étant nécessaire en vue des résultats souhaités. Elle se distingue nettement des anciens procédés qui sout apparemment mais seulement en partie analogues et qui ne permettent pas, à eux seuls, d'atteindre les succès qu'elle doit donner.

SUMARIO

O A. descreve uma nova tecnica de tratamento do carcinoma que denomina "tratamento cirurgico-radiação com controle de precisão." Considerando o Ca. de bexiga como um bom teste tratou dois casos com validade de conceito. A simplicidade dos metodos permite supor o emprego imediato pelos teams radiologicos porque os seus principios tem aplicação geral e não se prendem a qualquer tipo ou sistema especial. Representa uma soma de velhor e novos principios tecnicos com integração completa dos efeitos desejados.

RESUMEN

El autor da cuenta de un nuevo intento en el tratamiento del carcinoma a cuya técnica puede aplicarse el descriptivo nombre de "tratamiento radio quírúrgico con controles de precisión."

El carcinoma de la vejiga constituye un carcinoma tipo para su aplicación inicial toda vez que es un tumor específico extremadamente difícil de tratar. Los resultados clínicos en los dos casos estudiados prueban como válido este concepto.

El desarrollo de dispositivos simplificados permite el úso inmediato de este método con el equipo radio quirúrgico corriente ya que la técnica ha sido ideada en forma que requiere solamente los procedimientos ordinarios. Los principios son de aplicación general y no están por tanto supeditados a un sistema determiando. El método representa una acumulación de técnicas nuevas y viejas cuya integración es precisa al objeto de obtener los resultados deseados. Esto es francamente diferente de los métodos antiguos superficiales, que solo eran parcialmente similares, y por tanto incapaces de producir los nuevos resultados de la técnica actual.

RIASSUNTO

L'autore descrive un nuovo metodo nella cura del cancro, la cui tecnica può essere indicata col nome di terapia radiochirurgica con controllo di precisione.

Il metodo è stato sperimentato nel cancro della vescica, poichè questo rappresenta un'affezione difficilissima da trattare e pertanto può essere un buon banco di prova. I risultati ottenuti in due casi hanno dimostrato la bontà del metodo.

L'aver messo a punto strumenti semplici dà garanzia di un impiego immediato del metodo da parte di ogni organizzazione chirurgico-radiologica, e la tecnica è stata studiata in maniera tale da richiedere soltanto mezzi a disposizione di ognuno. I principi si adattano alla generalità dei casi, e sono una sintesi di tecniche vecchie e nuove, la cui integrazione è indispensabile per ottenere i risultati richiesti. Si tratta di un metodo completamente diverso se pure in apparenza simile a quelli usati in passato, e assai più efficace.

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Care more particularly for the individual patient than for the special features of the disease.

Do not squander heartbeats in cardiac disease—live within your income.

Let us emancipate the student, and give him time and opportunity for the cultivation of his mind, so that in his pupilage he shall not be a puppet in the hands of others, but rather a self-relying and reflecting being.

Should your assistant make an important observation, let him publish it. Through your students and your disciples will come your greatest honor.

—*Osler*

Selective Instrumental Arteriographic Study in the Diagnosis of Renal Tuberculosis

R. DE NUNNO, M.D., F.I.C.S.

FLORENCE, ITALY

The importance and proper use of arteriographic study in urologic practice is still not utilized as it might be, owing to its possible complications. In the author's opinion, however, careful selection of patients and meticulous appraisal of the laboratory data in each case would eliminate these hazards in many instances. He has made a study of a series of experimental and clinical cases in which renal arteriographic studies were employed in connection with renal tuberculosis. The results are briefly outlined, and reference is made to the author's former publications on this topic.

IT IS unnecessary to mention the importance of angiographic research in the diagnostic field, since it is already a part of modern semeiotics and, in addition, represents one of the most interesting aspects thereof. In some schools, however, its application still meets with skepticism, for the complications, some of which are lethal, are not always due to technical errors (Crawford, Kyril and others). In some cases they can be attributed to the dose of contrast medium, to the necessary velocity of its introduction and an unexpectedly massive injection into an aortic branch, or to narcosis. I refer to angiographic study in the urologic field, in which it is seldom effectively employed in the diagnosis of some diseases of particular surgical interest, among which is renal tuberculosis.

Although angiographic investigation is admittedly not devoid of danger, a more careful selection of patients and a more meticulous interpretation of the results of laboratory tests would certainly have prevented many of the complications reported in the literature. Aortographic methods, however excellent, cannot be the decisive factor in appraisal of surgical diseases of the kidney, because of the slight contrast visualization of the left renal arterial system obtainable by Dos Santos' method or the equally slight contrast bilateral visualization provided by the technic of Oselladore and Farinas or the variants thereof. For this reason some authors, including Narath, not being sure of obtaining the desired result, hesitate to recommend this type of examination to their patients.

In 1954 these considerations, among others, induced me to devise, first experimentally and then clinically, a new angiographic technic which I called selective instrumental arteriographic study of the kidney. It permits a careful and selective view of the renal arterial system with small doses (4 to 6 cc.) of contrast medium. The resultant picture can be coordinated perfectly with that supplied by the

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From the General Surgical Clinical Institute and the Department of Surgical Therapy, University of Florence. Prof. F. Fedeli, Director.

Submitted for publication Oct. 21, 1958.

RIASSUNTO

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Il metodo è stato sperimentato nel cancro della vescica, poichè questo rappresenta un'affezione difficilissima da trattare e pertanto può essere un buon banco di prova. I risultati ottenuti in due casi hanno dimostrato la bontà del metodo.

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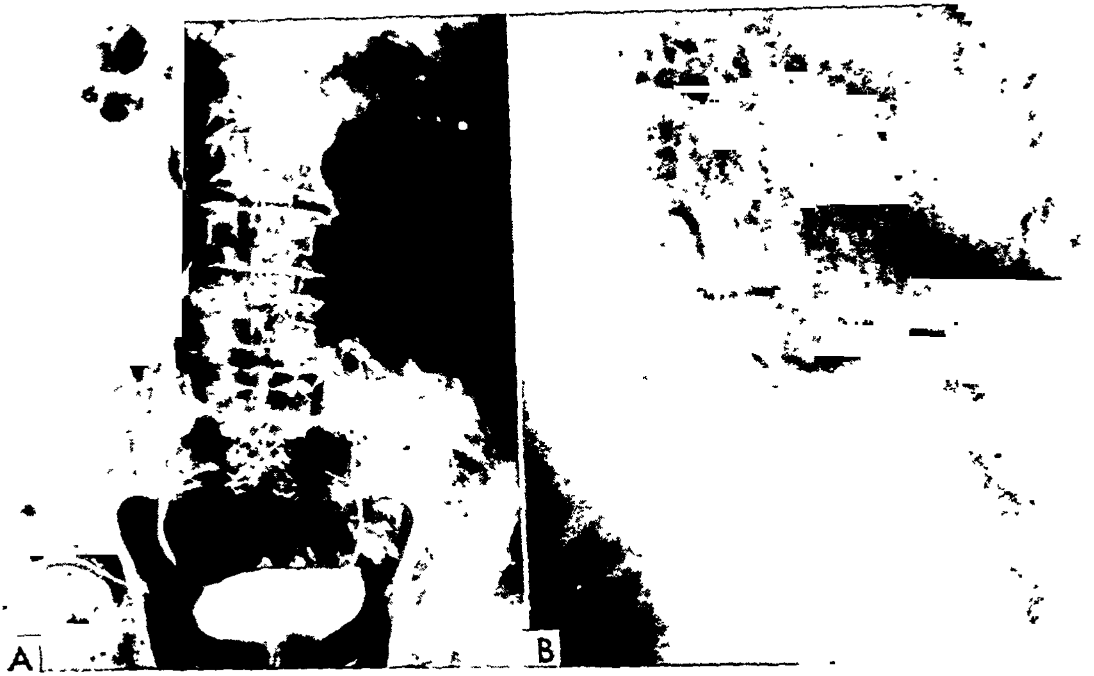

Fig. 2.—*A*, amputation of inferior group of right calyces. *B*, expanded tuberculosis (arteriogram of same patient).

a perifocal exudative reaction, followed by degeneration and glomerulotubular necrosis. The characteristic diffusion of the tubercular process toward the excretory channels produces a deep connective tissue reaction that may be followed by obstruction of the downflow of urine and caseous material, with consequent phenomena due to retention.

When the initial tubercular lesions are of little importance, with the arteries only slightly compromised, and the connective tissue reaction is intense in the particular patient, the specific granuloma may undergo fibrous transformation, or it may extend as indicated by the pathologic nature of the existing condition (cavernositis, hydrocalycosis, pseudohydronephrosis, etc.)

Attention to the vessels in a case of renal tuberculosis is required from the beginning, since the vascular alterations are verified by their correspondence with the focus and account for phenomena

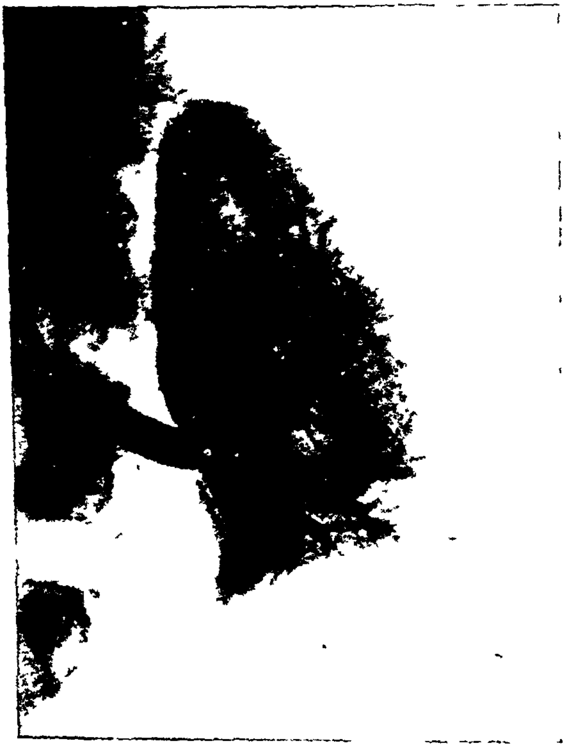

Fig. 3.—Tuberculosis of the inferior renal pole.

anatomic angiogram; moreover, it enables one to make a careful study of the velocity of circulation and of elimination of the contrast medium when one employs seriographic or roentgen cinematographic methods.

This technic and its indications and contraindications have been described in earlier publications. There were numerous confirmations in Italy (Morino; Robecchi, Chiaudano and Morino; Tarquini and Malan; Morino, Biondetti and Marani), and these were made the subject of a report to the international symposium on renal arteriography at Turin in June 1957.

Since the arteriographic picture associated with renal tuberculosis is little known and arteriographic contrast studies are insufficiently used in the diagnosis of this disease, my experience, though modest, may be useful as a contribution to this important chapter of pathology and to the effort to assess the actual value of angiographic study in its diagnosis and treatment.

Anatomopathologic Considerations.—As an aid in interpretation of the angiographic data, I wish to mention, parenthetically, the anatomopathologic evolution of renal tuberculosis, since it supplies the reason for characteristic variations of the arterial network. Tubercular infection first becomes localized in the cortical area (Medlar and Copeland), whence, through a vascular or a canalicular channel, it extends to the calycopyelic region, the center of the papilla or the corticomedullaris limitans. The first anatomopathologic manifestation is a typical granuloma with

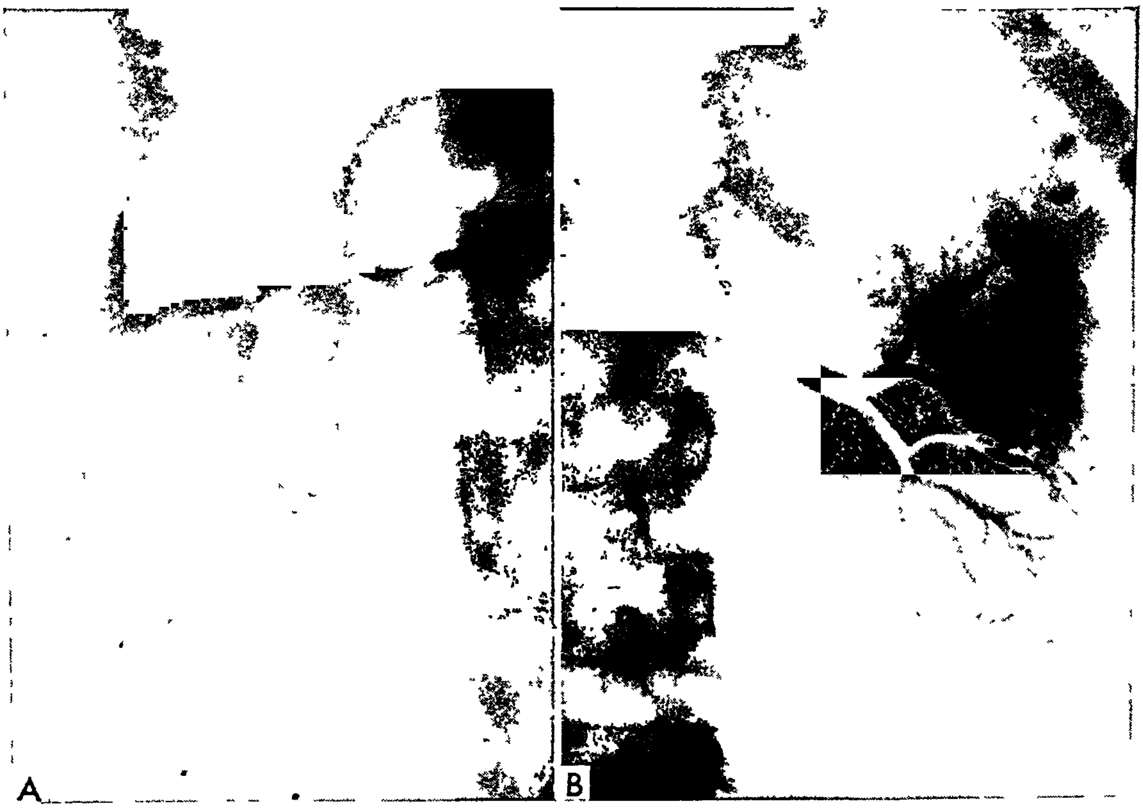

Fig. 1.—*A*, tuberculosis of middle and inferior third of kidney. *B*, tuberculosis of inferior renal pole.

work that formerly surrounded branches of the first and second orders. Angiographic study also reveals the characteristically altered arteries surrounded by "shingles" or spots, a totally avascular manifestation of caseosis or calcification.

When retention phenomena are superimposed on a tubercular lesion, as I have already stated, the contrast picture varies in the sense that the modifications caused by hydronephrosis join the aforementioned arterial variations themselves. The vessels, spread and distributed in the manner of strings on a tennis racket, stretch and grow longer until they become, in extreme cases, very thin, almost capillary. In these circumstances the angiographic diagnosis may meet with difficulty, but it should be borne in mind that the arterial modifications associated with tuberculosis, in contradistinction to those of hydronephrosis, involve limited renal areas of varying size and that, in addition, a more obvious vascular disorder is observable. When the specific process is clearly pyelic, however, the angiographic picture is identical with that of hydronephrosis so far as the disposition of the arteries is concerned (displacement, drawing, etc.), while alterations of the arteries themselves are more sharply accentuated and more clearly evident than in a case of hydronephrosis.

Finally, in the presence of tubercular pseudoinfarct, the angiogram shows a fan-shaped avascular zone departing from an arterial branch of medium caliber, revealing the aspect already described.

The arterial variations shown in the accompanying illustrations require no particular comment to demonstrate the importance of angiographic research in the diagnosis of renal tuberculosis. Certainly they prove that the technic to be used must permit systematic contrast visualization of the whole arterial network, to the most peripheral capillaries, in a clear and selective manner.

With the primary localization, which, as I have pointed out, is clearly cortical, neither urographic nor pyelographic investigation can enable one to make a definitive diagnosis, since lesions of the calyces are secondary. When tuberculosis of one of the kidneys is excluded urographically and the pyelogram demonstrates amputation of a group of calyces, it is almost impossible to differentiate, with any certainty, renal tuberculosis from a primary renal tumor, since cystoscopic study and tests for Koch's bacillus in the urine may give negative results. This is confirmed by my Case 9 (Fig. 2), in which papillary lesions apparently revealed by the cystoscope did not exist; both the pyelographic report and the test for Koch's bacillus gave negative results for the side excluded from the urogram, justifying a well-founded suspicion of the presence of tumor, especially as the patient's history revealed a remarkable loss of weight.

Fig 5.—Cortical tuberculosis.

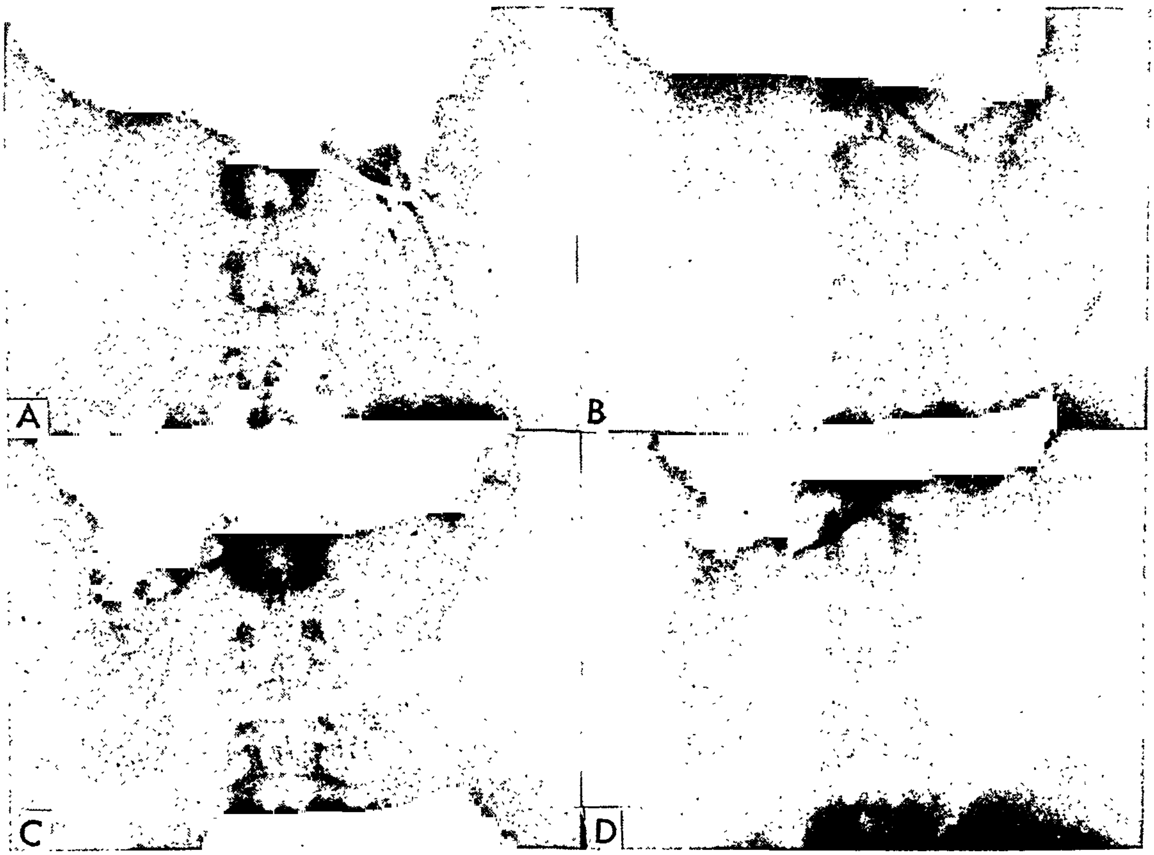

Fig. 4.—*A*, expanded tuberculosis (roentgencinematogram, arteriographic phase). *B*, nephrographic phase, same case. *C*, tuberculosis of the middle and inferior third of the kidney (roentgencinematogram, arteriographic phase). *D*, nephrographic phase, same case as in *C*.

caused by retention of urine and caseous material as reflected in the parenchyma.

Alterations in the vessels, involving chiefly the small arteries, are of two types: direct, due to periarteritis and subsequent obliterating endarteritis corresponding to the specific focus in progressive invasion of the layers of the artery, and indirect, a consequence of the stasis and retention causing modifications such as those associated with hydronephrosis. When vessels of medium caliber are involved early, it is possible to detect, by observing the terminal character of the arteries, a necrotic area and to identify the so-called tubercular pseudoinfarct.

Variations.—The angiographic variations associated with renal tuberculosis are characteristic. As a rule there is involvement of only certain sectors of the arterial network, which are plainly revealed by contrast to the neighboring normal sectors.

As the anatomopathologic evolution proceeds, a remarkable reduction in the number of small vessels can be verified as the result of obliterating endarteritis. The remaining vessels are reduced in caliber, with irregular angular borders, and frequently truncated, assuming the appearance of dry branches. This involves, naturally, the disappearance of the small network that formerly surrounded branches of the first and second orders. Angiographic study also reveals the characteristically altered arteries surrounded by "shingles" or spots, a totally avascular manifestation of caseosis or calcification.

When retention phenomena are superimposed on a tubercular lesion, as I have already stated, the contrast picture varies in the sense that the modifications caused by hydronephrosis join the aforementioned arterial variations themselves. The vessels, spread and distributed in the manner of strings on a tennis racket, stretch and grow longer until they become, in extreme cases, very thin, almost capillary. In these circumstances the angiographic diagnosis may meet with difficulty, but it should be borne in mind that the arterial modifications associated with tuberculosis, in contradistinction to those of hydronephrosis, involve limited renal areas of varying size and that, in addition, a more obvious vascular disorder is observable. When the specific process is clearly pyelic, however, the angiographic picture is identical with that of hydronephrosis so far as the disposition of the arteries is concerned (displacement, drawing, etc.), while alterations of the arteries themselves are more sharply accentuated and more clearly evident than in a case of hydronephrosis.

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Fig. 5.—Cortical tuberculosis.

Therapeutic Implications.—If angiographic study is important in the diagnosis of renal tuberculosis, it is perhaps still more important in the therapeutic management of the patient. Since it reveals the exact limits of the specific process and the architectural disposition of the vessels, it is a highly useful guide in establishing the extent of surgical demolition that is necessary and, eventually, in performing segmental resection on the basis of exact knowledge, the *sine qua non* for a good result.

CONCLUSION

The value of these brief considerations becomes apparent when one realizes that angiographic study provides the surgeon with a clear vascular picture that can be superimposed perfectly on the anatomic one and that it is essential to obtain contrast visualization of the smallest ramifications, which are, as I have demonstrated, the first to be involved in the tubercular process. Obviously, only selective arteriographic study can supply a perfect arteriographic image; it is the only useful means of arriving at an early and accurate diagnosis of renal tuberculosis. Since it is also innocuous, I consider it worthy to be included in the daily training of those responsible for surgical and urologic diagnosis.

RIASSUNTO

L'impiego dell'arteriografia nella pratica urologica non è ancora così largamente diffuso come meriterebbe a causa delle sue possibili complicazioni. L'autore è del parere, tuttavia, che una scelta accurata dei malati da sottoporre a questa indagine e una meticolosa valutazione di tutti i dati di laboratorio possono ridurre al minimo i rischi in un'alta percentuale dei casi. Egli ha compiuto delle ricerche in una serie di casi clinici e sperimentali di tubercolosi renale, studiati arteriograficamente, e ne riassume i risultati facendo riferimento ad un suo precedente lavoro sullo stesso argomento.

RÉSUMÉ

L'importance et l'usage judicieux de l'artériographie en urologie ne sont pas encore assez pris en considération du fait des complications qu'elle peut entraîner. L'auteur pense cependant qu'une sélection critique des malades et une évaluation précise des données de laboratoire dans chaque cas, élimineraient ces risques dans bien des cas. Il a procédé à l'étude artériographique d'une série de cas expérimentaux et cliniques de tuberculose rénale, et décrit brièvement les résultats, avec références à ses publications antérieures.

RESUMEN

La importancia y uso adecuado del estedudio arteriográfico en la práctica urológica no ha sido todavía aprovechado debido a sus posibles complicaciones. De acuerdo con la opinión del autor la selección cuidadosa de los enfermos y la estimación meticulosa de los datos de laboratorio en cada caso puede eliminar muchos de estos riesgos. Ha hecho diversos estudios experimentales y clínicos de arteriografías renales especialmente en casos de tuberculosis bacilar. Los resultados se sumarizan brevemente y se hace referencia a una anterior publicación del autor sobre esta materia.

SUMARIO

O uso adequado da arteriografia na pratica urologica ainda não é utilisado como deveria ser devido ás possiveis complicações dêsse esudo. Na opinião do A., entretanto, uma seleção cuidadosa dos doentes e a utilisação minuciosa dos achados laboratoriais em cada caso poderão eliminar essas complicações. O A. realisou n'uma serie de casos estudos clinicos e experimentais nos quais a arteriografia renal foi

empregada em conexão com tuberculose renal. Resume brevemente os resultados que concontrou e faz referencia ás primeiras publicações nêsse tópico.

ZUSAMMENFASSUNG

Arteriographische Untersuchungen werden wegen der möglichen Komplikationen in der urologischen Praxis noch nicht entsprechend ihrer Bedeutung gemäss angewendet. Der Verfasser glaubt aber, dass sich diese Risiken durch eine sorgfältige Auswahl der Kranken und durch peinliche Auswertung der Laboratoriumsbefunde in jedem Falle häufig ausschalten lassen. Er hat eine Untersuchung einer Reihe von experimentellen und klinischen Fällen durchgeführt, bei denen arteriographische Untersuchungen der Nieren bei Nierentuberkulose angewendet wurden. Er gibt einen kurzen Abriss seiner Ergebnisse und weist auf seine früheren Arbeiten über dieses Thema hin.

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Small boys are too often the victims of premature surgery. Phimosis should be treated by circumcision, but phimosis is almost unknown before puberty, and circumcision is practised in our hospitals for reasons of religion, folklore, tradition, apprenticeship, or just plain inability to say no, rather than because it is necessary. Every new-born male infant has a long and non-retractile prepuce as a birthright, but he rarely suffers from any obstruction to passing urine or pain in doing so.

—*Ogilvie*

Coccidioidomycosis of the Spermatic Cord: Roentgen Therapy

Report of a Case

HENRY BODNER, M.D., F.I.C.S., ALLAN H. HOWARD, M.D.
AND
JOSEPH H. KAPLAN, M.D.
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COCCIDIOIDOMYCOSIS in the male seminal tract is a rare manifestation and warrants a case report. Up to 1953, excluding autopsy, statistics, 6 instances of coccidioidomycosis involving the seminal tract had been reported in the medical literature. In all of the cases previously reported the condition had been treated by surgical excision. Since unsuccessful excision was followed by radiation therapy with simulated cure, the case here reported has additional significance.

The general features of the disease have been adequately described in the literature. Certain general features, however, bear repetition. The causative agent, *coccidioides immitis,* exists in the soil of Southwestern United States, Northwestern Mexico and certain regions of South America. The arthrospores and chlamydospores developed by the organism in its saprophytic phase are dust-borne. The disease is contracted, therefore, by inhalation. In the human organism the chlamydospores become doubly refractive spherules that are diagnostic of the disease. The coccidioidal complement fixation test, done in mass skin testing programs on persons living in endemic areas, revealed that all members of the population contract the infection at one time or another. In 40 per cent of those exposed to the disease, it varies from a mild infection of the upper part of the respiratory tract to severe pulmonary involvement, and in some instances the disseminated and progressive forms result in death. In approximately one-half of the disseminated infections, progression leads to death. The characteristic lesion is an infectious granuloma, consisting of a group of epithelioid cells with scattered giant cells and, frequently, central caseation. The caseation resembles that associated with tuberculosis. The presence of the double refractile spherules observed in smears of secretion from the involved organs, as well as in tissue preparation, is diagnostic. The disease is disseminated by the blood stream, and the most frequent sites of granuloma are in the lungs, lymph nodes, skin, subcutaneous tissues, liver, kidney, bone, meninges, adrenal gland and myocardium. From exhaustive autopsy data it is apparent that in about 1 per cent of those patients in whom clinical pulmonary disease has existed there is dissemination to other parts of the body. There is usually a long latent period (up to five years) between the primary pulmonary infection and the evidence of involvement of the genital tract.

In an extensive study of 95 cases of proved coccidioidomycosis occurring in Army installations, Forbes and Bestebreurtje, in 1946, observed the organism and disease in the kidney and prostate, but in no other portion of the urinary

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tract. They noted that 60 per cent of the lesions occurred in the kidney and 6 per cent in the prostate. Gibson, however, disclosed the fact that, although the kidney is the most commonly involved organ of the genitourinary tract, in the disseminating type of the disease this rarely became important from the clinical standpoint. Weyrauch et al., in 1950, reported 2 cases of coccidioidomycosis involving the epididymis and probably secondary to a prostatic focus. Rohn and his associates, in 1951, also reported 2 cases of epididymitis due to coccidioidomycosis. Root and Christensen, in 1953, reported 2 additional cases of coccidioidomycosis of the epididymis. Rohn, Davila and Gibson reported, in a series of 214 cases described by various authors, 57 instances of renal involvement, or 26.6 per cent; 4 instances of prostatic involvement, or 1.8 per cent; 2 instances of epididymis, 0.9 per cent, and 1 instance of involvement of the seminal vesicle and testis, or 0.4 per cent. There is no specific therapy for the disease. In all of the reported cases in which the epididymis was involved, surgical excision was done. Sodium or potassium iodide has been suggested for reduction of the granulomatous lesions. The success of this type of therapy is questionable. Thoracic coccidioidomycosis mimics tuberculosis so closely as to suggest the possibility that coccidioidomycosis of the spermatic cord and epididymis may be evident in more cases than is indicated by the literature —possibly, in some instances, a diagnosis of tuberculosis is made. Rhone, Davila and Gibson pointed out that renal infection with coccidioidomycosis has little clinical importance, while genital involvement is important. In our case the apparent involvement of the prostate with coccidioidomycosis was unrecognized, as was the lesion in the spermatic cord. Our diagnosis, "spermatic granuloma," was erroneous.

The authors report a case of unrecognized coccidioidomycosis of the spermatic cord, in which the erroneous diagnosis of "spermatic granuloma" was made. After unsuccessful conservative treatment in various forms, bilateral vasectomy was done to relieve severe epididymitis. A few months later another operation was required, and the "granuloma" was excised. Both operations were followed by suitable after-care, including the treatment of a persistently draining sinus by roentgen therapy. The pathologic diagnosis was coccidioidal granuloma. This was confirmed by the School of Public Health in Berkeley and by the Armed Forces Institute of Pathology. At the time of writing the patient had no active symptoms, but it was planned to administer one of the newer antibiotics in an attempt to prevent reactivation.

REPORT OF CASE

E. J. C., a man 37 years old, a tree-trimmer, was first seen on July 29, 1954 because of urgency and frequency of urination and some dysuria. He had had similar symptoms about a month earlier, which had disappeared spontaneously. Examination revealed the external genitalia to be essentially normal. The prostate was slightly enlarged, and was boggy and tender. No nodules were palpated, and the seminal vesicles were not palpable. The prostatic secretion contained 80 to 100 white blood cells per high power field. There was some tenderness in the right loin but no palpable masses. An intravenous pyelogram was reported as essentially normal.

The patient was treated by prostatic massage, and the symptoms gradually disappeared. On October 26, acute left epididymitis developed. Treatment consisted of the administration of antibiotics, local application of ice packs and elevation of the scrotum. The epididymitis resolved, then recurred and then incompletely resolved. Bilateral vasectomy was done. The postoperative course was uneventful. Prostatic massage was done in December, January and February. On March 7, 1955, purulent drainage was noted from the site of the left vasectomy incision, which continued to drain in spite of local cauterization. A nodular mass was now palpable. On April 1, excision of what was thought to be a spermatic granuloma was done. The patient was discharged from the hospital on the following day. Healing occurred spontaneously. On April 19, a draining sinus developed over the site of the right vasectomy incision. One week later there was drainage on the left side. On May 6, the patient was given roentgen therapy to a total of 210 r in air to the right and left sides of the upper part of the scrotum; 250 Kv., 1.12 mm. of copper, HVL 15 ma., 50 cm. focal scrotal skin distance. Both incisions healed. On November 10 there was no evidence of any draining fistula. There was a nodule palpable in the left scrotum, but the right was soft and appeared essentially normal.

The pathologic report of Richard Myers, M.D., of the tissue removed on April 1 was as follows: "The specimen consisted of a 4 by 4.5 by 2 by 0.6 cm., irregular mass of rough white tissue. At each extremity of the mass a 1.5 by 0.3 cm. segment of firm tubular structure entered the central portion. At one border an irregular piece of wrinkled skin 1.5 by 1 by 0.05 cm. was attached. Microscopic examination revealed many granulomatous foci. These were characterized by necrosis, round cell infiltration and many giant cells. Fibroblastic proliferation was evident. In addition, there were many round bodies. These had a hyalin capsule and were filled with endospores. They varied from 40 to 60 microns in size, and morphologically were typical of C. immitis. The sections also contained portions of the spermatic cord, with round cells in the wall. There was no evidence of neoplasia. Diagnosis: Coccidioidal granuloma of the spermatic cord."

A specimen of blood was sent to the School of Public Health at Berkeley, California, and was reported as "positive" for disseminated coccidioidal infection. The titer was not as high as frequently observed—much more in accordance with a single extrapulmonary lesion. A specimen of the tissue block was sent to the Armed Forces Institute of Pathology. The diagnosis was coccidioidal granuloma of the spermatic cord. Subsequent careful questioning revealed that the patient had had some pulmonary involvement in November 1953, at which time he required bed rest for three weeks for either pneumonia or a virus infection. He has had no subsequent evidence of pulmonary disease. During the past year (1957) necrosis of several vertebrae became evident on roentgen examination. Severe headaches, in addition to neurologic evidence of irritability of the central nervous system, developed. Progression and dissemination of the disease was obvious. There has been no local scrotal activity of the disease process. At the time of writing (February 1958) the patient is free from active symptoms. Involvement of the vertebral and central nervous system is quiescent. The patient is to receive therapy by one of the newer investigative antibiotics.

ZUSAMMENFASSUNG

Die Verfasser berichten über einen Fall von unerkannter Coccidieninfektion des Samenstranges, wo die irrtümliche Diagnose eines "Samengranuloms" gemacht worden war. Nach erfolgloser konservativer Behandlung verschiedener Art wurde eine beiderseitige Samenstrangexstirpation vorgenommen, um eine schwere doppelseitige Nebenhodenentzündung zu beheben. Einige Monate später wurde eine weitere Operation notwendig, und das "Granulom" wurde reseziert. Nach beiden Operationen erfolgte angemessene Nachbehandlung einschliesslich Röntgenbestrahlungen wegen einer ständig drainierenden Fistel. Die pathologische Diagnose lautete Coccidiengranulom und wurde von der Schule für Öffentliche Gesundheitspflege in Berkeley und vom Pathologischen Institut der Wehrmacht bestätigt. Zur Zeit der Niederschrift dieser Arbeit zeigte der Patient keine aktiven Krankheitszeichen; als Versuch, einer Reaktivierung vorzubeugen, wurde jedoch die Verabreichung eines der neueren Antibiotika geplant.

RÉSUMÉ

Il s'agit d'un cas de coccidioidomycose du cordon spermatique non diagnostiquée et prise pour un granulome spermatique. Après divers traitements conservateurs sans succès, les auteurs pratiquèrent une vasectomie bilatérale afin de soulager une épididymite grave. L'état du malade nécessita une seconde intervention quelques mois plus tard, et le "granulome" fut excisé. Après les deux opérations, soins post-opératoires usuels avec drainage permanent et radiothérapie. Diagnostic anatomopathologique (confirmé par la School of Public Health de Berkeley et le Armed Forces Institute of Pathology): granulome coccidioidien. Actuellement le malade ne présente plus de symptômes actifs, mais un traitement aux antibiotiques les plus récents est prévu en vue de prévenir un réveil de l'affection.

RIASSUNTO

L'autore riferisce un caso di coccidioidomicosi ignorata del funicolo, nel quale era stata fatta la diagnosi erronea di "granuloma spermatico." Dopo aver tentato senza successo un gran numero di cure, venne fatta una vasectomia bilaterale per tentare di risolvere la grave epididimite. Pochi mesi dopo, tuttavia, si rese necessario un nuovo intervento, e questa volta venne asportato il "granuloma." Entrambi gli interventi furono completati con cure post-operatorie e roentgenterapia di una fistola residua; la diagnosi anatomopatologica fu di "granuloma coccidioidale," confermata da due instituti (la Scuola di Salute Pubblica di Berkeley e l'Istituto di Patologia delle Forze Armate).

Fino al momento della pubblicazione di questo lavoro il malato sta bene; si sta somministrando una serie di antibiotici fra i più moderni per prevenire la recidiva.

RESUMEN

Los autores dan cuenta de un caso de coccidioidomicosis del cordón espermático desapercibido qye había sido diagnosticado herroneamente como granuloma espermático. De varios tratamientos internos que fracasaron se practicó una vasectomía bilateral para curar la epididimitis grave. Algunos meses después fue precisa otra operación para extirpar el granuloma: ambas operaciones fueron seguidas de un tratamiento postoperatorio adecuado incluyendo el tratamiento radioterápico de una supuración persistente. El diagnóstico anatomopatológico fue de granuloma coccidiodomicotico. Esto mismo ha sido confimado por la Escuela de Salud Pública de Berkeley y por el Instituto Anatomopatológico de las Fuerzas Armadas. En el momento presente el enfermo no tiene síntomas pero se está pensando an administrarle alguno de los nuevos antibióticos para prevenir la recidiva.

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Hippocampus Hernia and Its Arteriographic Image

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AND
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The authors have studied 869 arteriograms of the internal carotid artery in the lateral position, finding injection of the posterior communicant and the posterior cerebral in 147 (16.92 per cent), of which 113 (76.86 per cent) were normal and 34 (23.12 per cent) pathologic. The different roentgen images of these vessels are classified into seven groups.

ONE of the subjects that provoke great controversy among neurosurgeons is "cisternal hernia." This work reports an anatomic, roentgenographic and clinical study of the communicant and posterior cerebral arteries, the results of which, in our opinion, are of interest.

In a publication on the posterior cerebral artery (1954) we mentioned the embryonic development of the cerebral vascular system at the expense of the cephalic branches and the volume of the internal carotids, pointing out that the posterior cerebral artery is dependent on the posterior communicant. Continuous study of this vessel confirms this conception, assisting us in the interpretation of normal and pathologic vascular images.

In a later publication (1955) we showed a diagram in which five 10-degree angles are represented. The angles arise from the tuberculum sellae and radiate to the occipital bone. We studied in this diagram the trajectory of the communicant and posterior cerebral arteries, concluding that the most frequent trajectory of the anterior segment was between 10 and 20 degrees and that of the posterior segment between 20 and 30 degrees.

On the basis of these observations, we proposed to study the different images of these vessels and their relative importance in relation to the hernias of the uncus and the hippocampus.

Material and Method.—We studied the relations and measurements of the Willis polygon in fresh cadavers without a fixation process, obtaining the following results: (1) that the average distance between the carotidean siphon (beginning of the posterior communicant artery) and the posterior cerebral artery was 9 to 11 mm.; (2) that the posterior communicant artery is 13 to 15 mm. long, and (3) that the posterior communicant artery exceeds in length the space it occupies.

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Later we established the relation between the posterior communicant and the fifth temporal circumvolution, with the following results: (a) in the anterior third the cistern is wide (8 to 10 mm.); (b) in the middle third the cistern diminishes to 6 mm., and (c) in the posterior third the cistern reaches a width of only 3 mm.

At the back of the last-mentioned area the hippocampus maintains an intimate relation with the posterior cerebral. The length of the posterior cerebral from its beginning at the level of the posterior communicant to the posterior edge of the hole of Pachioni, with a free trajectory in the posterior cerebral, ranges from 35 to 40 mm., in a segment related to posterior hippocampus hernia.

We have made this study by reviewing 869 arteriographic studies of the internal carotid, finding good injection of the communicant and posterior cerebral in 147, or 16 92 per cent. These figures are similar to those found in 1955 in the publication by one of us (Rocca) and Monteagudo, who recorded 16.77 per cent of 477 cases. Apparently, these values are low in comparison to those presented by other authors (Fig. 3, *A* and *B*), which vary between 25 and 35 per cent. According to the nature of our investigation, we discarded all injections that were not sufficiently clear, in order to avoid errors of interpretation.

Examination of the plates in the lateral position revealed that, even if there was diversity of images in the group considered normal, it was possible to detect a certain similarity in some of them. In view of this fact, we tried to group them into various typical groups and were able finally to consider seven types (Fig. 2), the characteristics and incidence of which constitute the principal theme of this article.

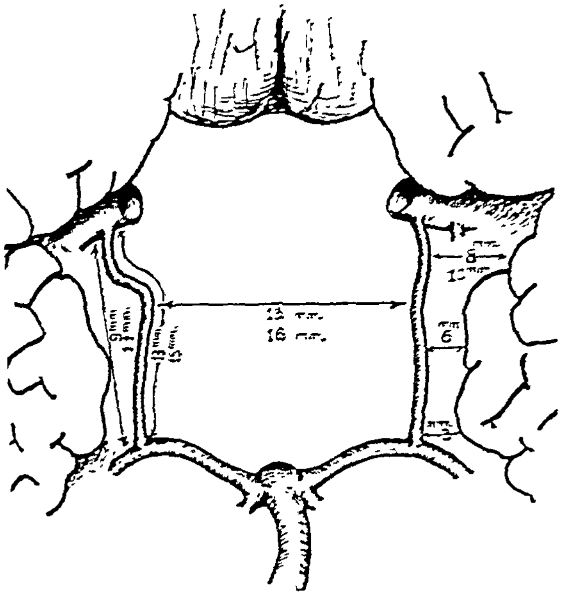

Fig. 1

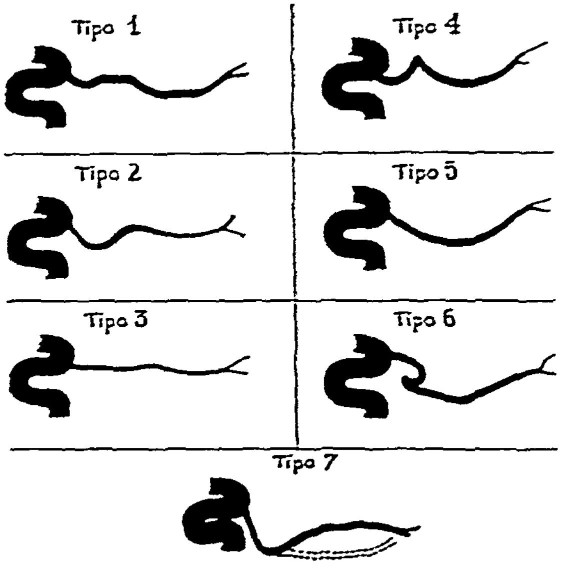

Fig. 2

Results.—We have considered two groups, normal and pathologic. The first consisted of patients who had no encephalic lesions and of whom arteriograms had been taken; the second, of patients with neoformative processes. Of the 147 persons in whose cases visualization of the communicant and posterior cerebral arteries was obtained, 113 (76.86 per cent)

Neurologic Surgery

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in the form of an obtuse angle widely opened. In no case was it possible to establish the limit between the communicant and the posterior cerebral.

Type IV.—This was the most frequent type (51 cases, 42, or 28.57 per cent, normal and 9, or 6.12 per cent, pathologic). A double concavity is observed (Fig. 3*D*) the

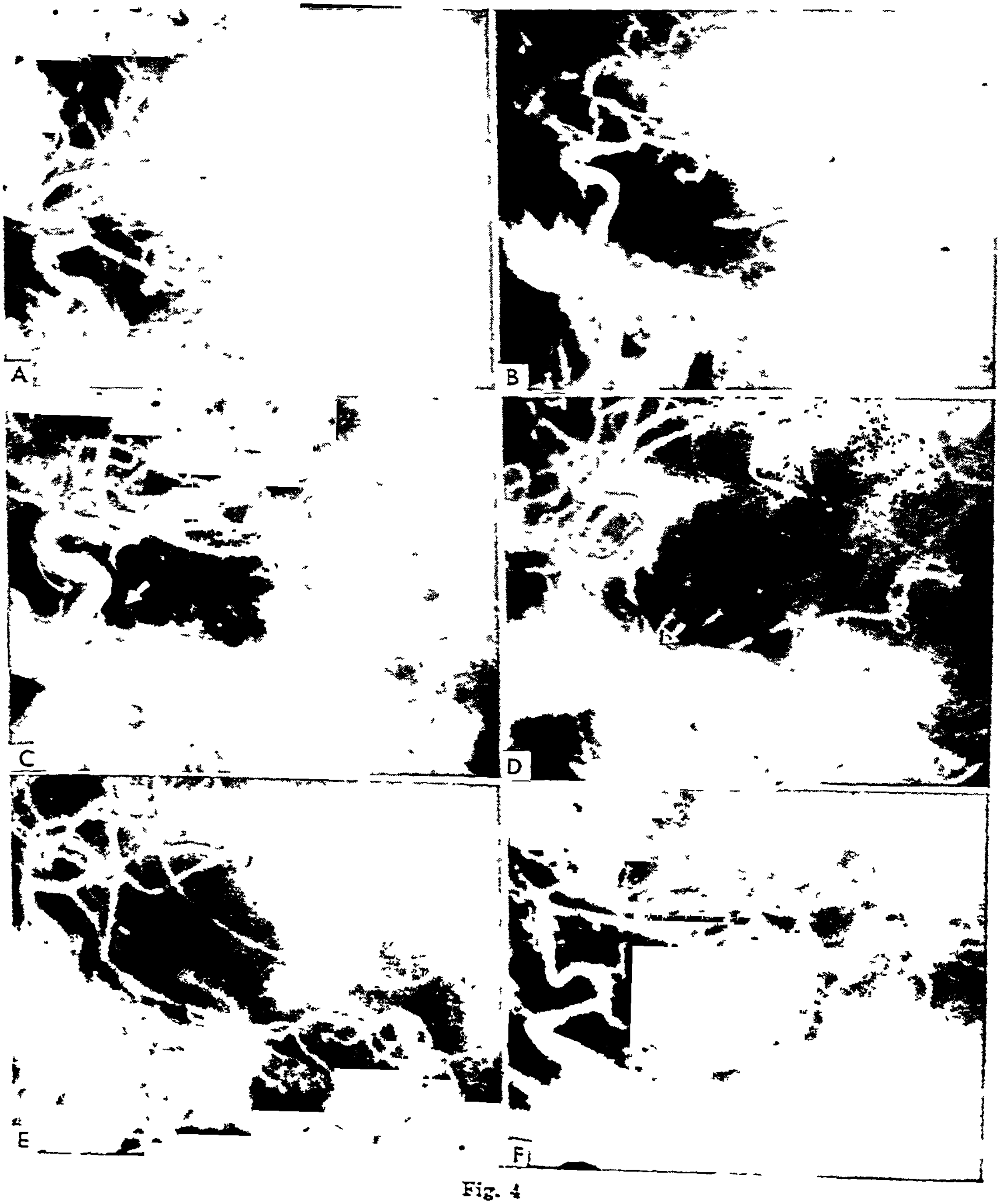

Fig. 4

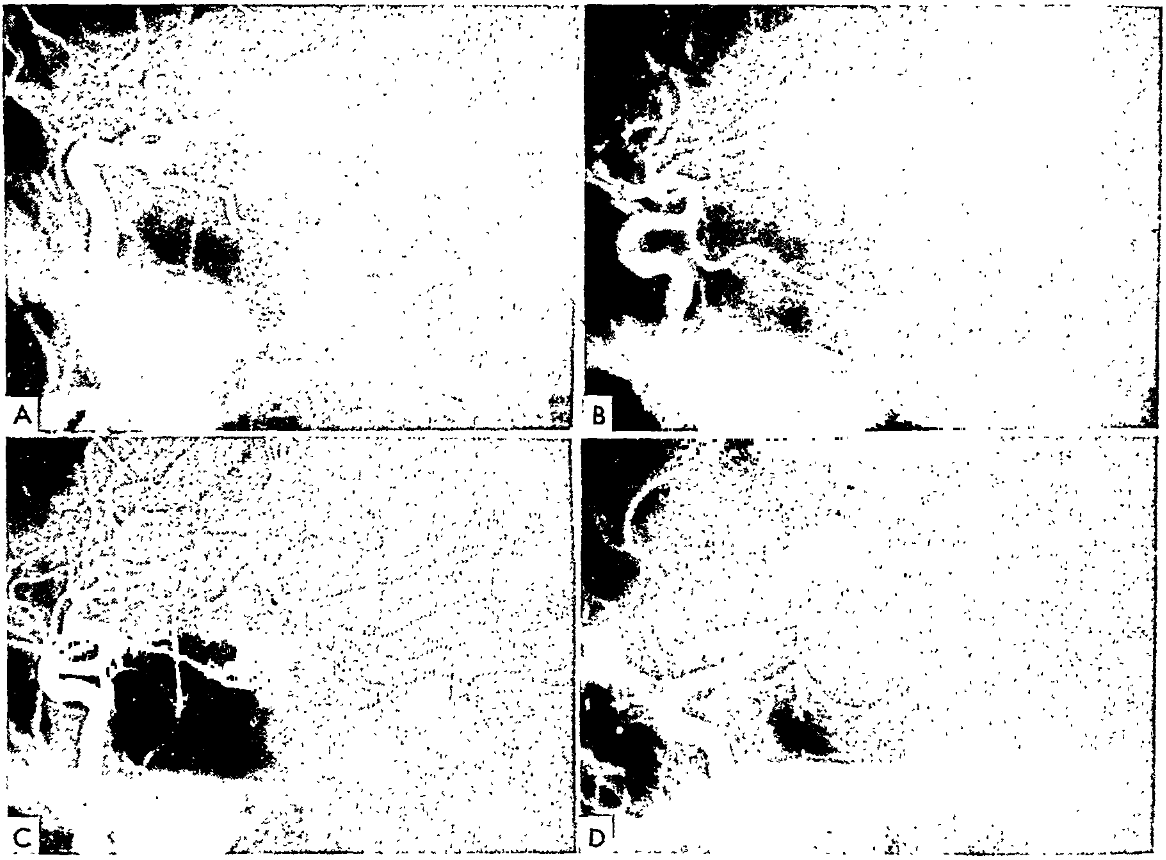

Fig. 3

were normal and 34 (23.12 per cent) pathologic (see table).

Type I. (9 cases, 8, or 5.44 per cent normal and 1, or 0.68 per cent, pathologic) —This type reveals a thick vessel (Fig. 3*A*) with an irregular trajectory on the first stretch, ending in a concave area extended somewhat upward.

	Normal		*Pathologic*		
Type	*Cases*	*%*	*Cases*	*%*	*Total*
I	8	5.44	1	0.68	9
II	13	8.84	5	3.40	18
III	23	15.65	6	4.08	29
IV	42	28.57	9	6.12	51
V	17	11.56	3	2.04	20
VI	10	6.80	5	3.40	15
VII	0	—	5	3.40	
	113	76.86	34	23.12	147

Type II.—This type was observed in 18 cases, 13 normal (8.84 per cent) and 5 pathologic (3.40 per cent). The posterior communicant is thick; its trajectory (Fig. 3*B*) makes a marked cavity upward, of slight extent, more or less rounded and angular. The posterior cerebral presents a second inferior concavity slightly beyond the line of its trajectory, imperceptibly making an italic S and dividing into terminating branches. In more than 50 per cent of the cases it was not possible to establish the difference between the communicant and the posterior cerebral.

Type III. (29 cases, 23, or 15.65 per cent, normal and 6, or 4.08 per cent, pathologic)—A thin vessel is observed (Fig. 3*C*), filiform but with a tendency to be rectilinear, or slightly wavy (sinuous) or purposes. The problem of angiographic interpretation involves difficulties, and the frequent variations of the vessels in their trajectories produce capricious images. This is one of the reasons why we tried to classify these trajectories, having been able to separate 7 groups with definite lines.

Histologically, the great cerebral arteries present characteristics that distinguish them from others; they are vessels with scarce muscular fibers, in which elastic tissue predominates, making variation of caliber difficult and offering a rigid but resistant aspect. At the same time, they are longer than the space they occupy, as is shown in Figure 1. This permits their displacement and elongation without loss of caliber.

The trajectory of the posterior communicant artery is in the chiasmatic cistern and that of the posterior cerebral artery in the fissure of Bichat, in a flexible form. Because of the great branches it supplies, it is much firmer than the communicant, but its greater dimensions permit it ample displacement.

The uncus maintains an intimate relation with the posterior communicant, and the greater distance between them corresponds to the anterior third, which means that, in order to displace the artery in this portion, strong edema is required. On the contrary, the posterior third can be rapidly displaced. The hippocampus is in direct relation with the posterior cerebral artery, rejecting it to the midline downward in the presence of edema. The arterial vessel can also be englobed and strongly compressed by the hernia (Fig. 5, *A*, *B* and *C*), having a greater diflexion and a remote possibility of injection. The image produced by great elongation and descent indicates the presence of hernia, but its absence does not eliminate it. As can be seen in the statistical records here presented, it is a frequent observation that in pathologic conditions these vessels continue their trajectories within normal limits.

From this arteriographic study and in accordance with the results obtained, we conclude that the diagnosis of hernia of the anterior and posterior hippocampus is fundamentally clinical; that interpretation of the images of Types I to VI is related to the clinical picture, and that Type VII is almost pathognomonic of cisternal hernia.

Tönnis and Pia expressed the opinion (1952) that the position of the posterior cerebral artery follows a line that passes above the sella turcica but accepts the various modifications to which the artery is subjected. In 54 cases of tumor of the middle fossa they observed descent of the posterior cerebral in 37, with the following characteristics: in 6, total displacement of the artery; in 7, descent of the first portion only, i.e., the posterior communicant, which Niemeyer interpreted as hernia of the uncus. In other cases, descent of the posterior cerebral artery was observed, interpreted by Niemeyer as hernia to the cistern of Galeno.

ZUSAMMENFASSUNG

Die Verfasser haben 869 Arteriogramme der A. carotis int. in seitlicher Projektion untersucht und fanden eine Füllung der hinteren A. communicans und der hinteren Zerebralarterie in 147 (16,92%) Fällen, von denen 113 (76,86%) normal und 34 (23,12%) pathologisch waren.

Die verschiedenen Röntgenbilder dieser Gefässe werden in sieben Gruppen eingeteilt.

RESUMEN

Los autores presentan 869 arteriogramas de la carótida interna en posición lateral encontrando la inyección de la

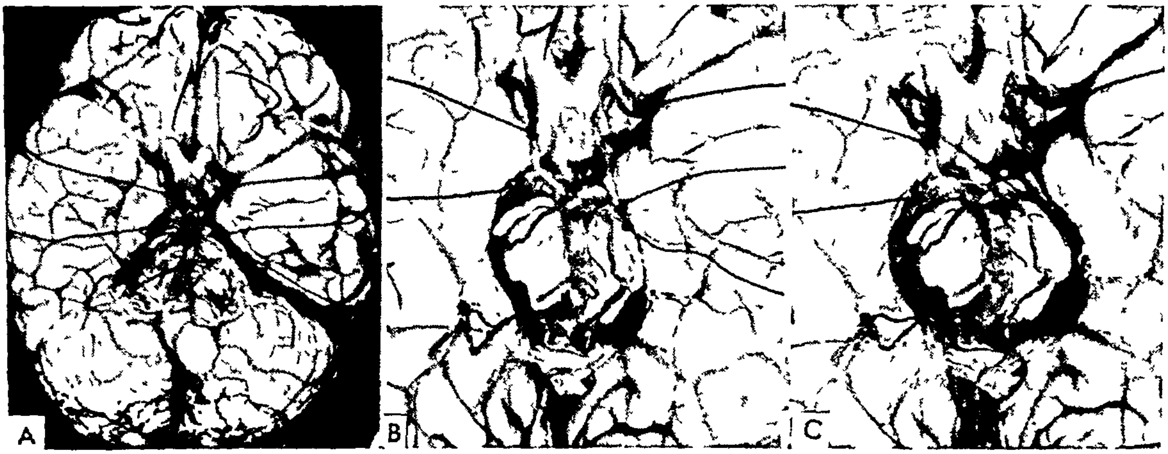

Fig. 5

first concave area is short, corresponding to the posterior cerebral at the level of the hippocampus; the latter is more or less elongated. The vessel is thick throughout its trajectory.

Type V. (20 cases, 17, or 11.56 per cent, normal and 3, or 2.04 per cent, pathologic)—This type is characterized by a thick vessel (Fig. 4*A*) with an open superior concavity, not strongly accented. It is impossible to establish the limit between the communicant and the posterior cerebral.

Type VI. (15 cases, 10, or 6.8 per cent, normal and 5, or 3.4 per cent, pathologic)—In this group the posterior communicant (Fig. 4*B*) has the form of an italic S, whose first concavity is small and not too deep; the second and longer inferior concavity ends in a pronounced form, almost like a hook. Emerging from this point is the posterior cerebral, which makes a great superior concavity.

Type VII.—The last type corresponds to an exclusively pathologic image (5 cases, or 3.40 per cent), with two variations: In the first, the posterior communicant (2 cases) is taken from its beginning downward almost vertically (Fig. 4, *C* and *D*) to form, later, a pronounced concavity more or less long and difficult to see, because it always "gets lost" and is covered by the peñasco. This is the image observed in hernia of the uncus. In the second variety (3 cases) (Fig. 4, *E* and *F*) the descent of the communicant is not so pronounced, and the posterior cerebral makes a long and deep concavity upward; this is the image associated with hippocampus and hernia and is also frequently observed in cases of temporal tumors.

In the great hypertensive syndromes characterized by edema and pronounced protrusion of the uncus and hippocampus, the two images complement each other. We do not mean to say that every arteriogram showing an injection to the communicant and posterior cerebral strictly corresponds with these types. To classify them, it must be borne in mind that the description is based on selected images, which on examination seldom exactly agree with what is described. It is the careful analysis of the actual characteristics that makes it possible to assign it to one of these categories, with rare exceptions.

SUMMARY

The study here reported gave the authors the opportunity to obtain arteriographically typical images that can be applied with great advantage to practical

Obstetric and Gynecologic Surgery

Symphysiotomy in Cases of Aftercoming Arrested Fetal Head

Report of a Case

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THE subject of this article is one I had not expected to bring forth again, since my constant struggle in its behalf has evoked violent objections and criticisms from nearly all of the local specialists. The great satisfaction I have derived from its performance, however, has decided me once again to urge those who have never tried it to do so, and to give due consideration to the valuable opinions of others who have had extensive experience with the procedure. I refer to Zárate's partial symphysiotomy.

Sixty-seven performances of this operation, not one of which I have had occasion to regret, give weight to my opinion. I now present an indication that has aroused considerable doubt; even Zárate preferred to perform this operation prophylactically rather than as an extempore measure.

Brindeau, as early as 1926, pointed out the convenience of symphysiotomy in the presence of arrest of the aftercoming fetal head, "after the maneuver of Champetier de Ribes had failed." He published reports of 2 cases in the *Bulletin de la Sociétié d'Obstetrique et de Gynecologie*, No. 7, in that year. I shall report here a case of my own observation.

The aversion of obstetricians toward symphysiotomy can find no justification; it is a rational, perfect and conclusive operation; rational, because it imitates nature. The infiltration of the symphysis during pregnancy tends to permit distention of the ligament, increasing all the diameters of the inlet during delivery. Symphysiotomy has the same effect, although of course in larger measure, permitting the object of delivery to pass freely and naturally. It is so rational that, with only a relative resting period in bed and without any accessory measures, nature can proceed to the "reconstitutio ad integro" of the region.

It is a perfect and conclusive operation because, when well justified and performed, it gives the obstetrician full satisfaction, saving, with an ease admired by the performing physician, the life of a fetus already at the point of death.

REPORT OF CASE

M. R. P., a white married secundigravida aged 29, a resident of Juiz de Fora, was admitted at 8 a.m. on May 2, 1953, to the Ma-

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comunicante posterior y de la cerebral posterior en 147 (16,92 por cento), de los cuales 113 (23,12 por cento) eran normales y 34 (29,12 por cento) patológicos.

Las diferentes imágenes radiológicas de estos vasos se presentan clasificadas en siete grupos.

SUMARIO

Os AA. estudaram 869 arteriogramas da carotida interna em posição lateral conseguindo injetar na comuni cante posterior e na cerebral posterior em 147 casos (16.92%) dos quais 113 (76.86%) eram normais e 34 (23.12%) patologicas. Classificam as diversas imagens desses vasos em sete grupos.

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. . . Pain is not the only symptom that may mislead. Vomiting, abdominal distension, and constipation in an old person usually mean obstruction from cancer of the colon, but the same picture is given by uraemia. I have several times been asked to see such patients, but I do not remember one that was not also drowsy enough to suggest the true pathology. Haematemesis should mean organic disease, but the vomiting of large quantities of blood is a well known manifestation of hysteria or malingering, and it may be impossible to prove the deception. I once had such a patient, who repeatedly vomited a chamber full of blood, yet never had a radiological deformity or suffered any drop in her colour index. The bleeding only ceased when her husband was killed in an aeroplane crash. I myself have been led astray by the hoary pitfall of jaundice. A lady was sent home from India, wasted to a skeleton, deeply pigmented, with a large hard liver. To my great relief I found, on opening her, that her obstruction was due not to cancer, but to a large egg-shaped stone in the common duct. After its removal she improved rapidly, but did not regain her colour with the speed I should have liked, and it was not till many weeks had elapsed that I realized that the remaining pigmentation was racial and not icteric.

I do not wish to multiply instances of error, but I would return to my original thesis, that a symptom is misleading in proportion as we make it a leading one. Symptoms should come before us to be put in their place, and when all are marshalled, assessed and allotted to their relative stations, the place of the most clamant is not necessarily that of leader.

—*Ogilvie*

Fig. 2.—Roentgenogram taken fifteen days after last labor.

less when performed with the proper technic, and brilliant, because it is life-saving — symphysiotomy. The Zárate partial symphysiotomy technic is an essential part of every obstetrician's professional knowledge and skill.

North American obstetricians frequently resort to the use of Piper's forceps in cases of aftercoming arrested head. This has resulted in a fair number of successes, but only, of course, when there is no disproportion. Knight and O'Connell, of the Sloane Hospital for Women in New York, have published an article entitled "A Ten-Year Analysis of Breech Presentations, 1938-1948," in which, of the 12 full-term fetuses delivered dead or dying shortly after birth, 11 were subjected to autopsy. In only 1 were there no endocranial lesions. All the others presented one or several serious lesions of the brain. In 9, ruptures of the tentum cerebelli were observed (*American Journal of Obstetrics and Gynecology,* November 1952). This precise and early indication for symphysiotomy lends added force to the declaration made by Manuel Rodríguez López at the Congress held in Montevideo in 1949 that "it (symphysiotomy) should figure in the surgical-tocological preparation of every complete specialist who wishes to master the obstetrical art."

It is of interest to record the fact that on October 15, 1954, after two hours of labor, the patient in the case here reported gave normal birth to a fetus weighing 2,900 Gm.

ZUSAMMENFASSUNG

Die Aoneigung der Geburtshelfer gegen den Schamfugenschnitt ist voellig unberechtigt; er stellt einen logischen, vollkommenen und entscheidenden Eingriff dar. Er ist logisch, weil er die Natur nachahmt. Die waehrend der Schwangerschaft auftretende Infiltrierung der Schamfuge ist dazu geeignet, eine Streckung des Ligaments zu ermoeglichen, wodurch waehrend der Entbindung alle Durchmesser des Beckeneingangs vergroessert werden. Der Schamfugenschnitt fuehrt zu dem gleichen Resultat, nur natuerlich in weiterem Ausmass, und gestattet eine freie und natuerliche Passage des Foetus. Der Eingriff ist so natuerlich, das nach verhaeltnismaessig kurzer Bettruhe und ohne weitere Hilfsmassnahmen die "reconstitutio ad integrum" des Operationsgebietes einsetzen kann.

Der Eingriff ist vollkommen und entscheidend, weil er bei klarer Indikation und guter Ausfuehrung dem Geburtshelfer volle Befriedigung gewaehrt und das Leben des dem Tode schon nahen Foetus mit einer Leichtigkeit rettet, die die Bewunderung des die Operation ausfuehrenden Arztes herausfordert.

RÉSUMÉ

Les préjugés des gynécologues à l'égard de la symphyséotomie ne sont nullement justifiés; c'est une opération rationnelle, parfaite et probante. Elle est rationnelle en ce sens qu'elle imite la nature. L'infiltration de la symphyse durant la grossesse contribue à la distension des ligaments, augmentant tous les diamètres du bassin pendant l'accouchement. La symphyséotomie aboutit au même résultat—quoique dans une plus large mesure, bien entendu —permettant le passage libre et naturel de l'enfant. Cette technique est si logique qu'une période relativement courte de repos au lit, sans autre mesure accessoire, suffit à permettre une cicatrisation locale complète.

ternity Ward Terezinha de Jesus, where I examined her.

Obstetric History.—Two years prior to admission, after a normal gestation and without antepartum examination, the patient was in labor for fourteen hours, assisted by a "practical nurse," before deciding to call in a neighborhood physician. By a difficult forceps extraction she was delivered of a living child, who died two hours later. The final menstruation preceding her present pregnancy had occurred August 10 to 14, 1952. She had remained in perfect condition throughout the gestation, and, although she could have obtained free medical advice through her husband's affiliations, she made no use of this prerogative. She had intended and desired again to be delivered of the child at home, but after several hours of labor one foot of the fetus appeared in the vagina. The "practical nurse" became frightened, and the parturient was then brought to the Maternity Hospital.

Physical Examination.—The patient was of a brevilinear habitus in good general condition, though nervous and frightened at the prospect of losing her second child. The pulse rate was 90; the temperature 36.8 C, and the blood pressure maximum 11 and minimum 6. Breech presentation was obvious, with torsion of the cord and the right fetal foot visible in the vulva, though the fetal heartbeat was normal.

Treatment.—Since the fetus was endangered by the dystocia, I decided to act at once. To the instruments I generally use for breech presentations was added a scalpel I always use for symphysiotomy; this is a routine preparation for dealing with such presentations.

Intravenous anesthesia was induced with Evipan. With the assistance of Dr. Jesus Masini I performed a podalic extraction. The trunk and arms "came loose" with ease, but the head became wedged in the inlet, resisting the several maneuvers we attempted. The fetus was already suffering, and we decided to perform symphysiotomy.

As usual, the operation was performed and concluded within the lapse of approximately one minute. Slight traction in the feet completed the descent and delivery of the child, which was in respiratory syncope, with very slow heartbeats. Artificial respiration, oxygen and venous lobeline were administered, and in a few minutes both the respiratory and the cardiac rhythm became normal. The fetus weighed 2,800 Gm. The cephalic diameters were normal.

The puerperium was totally afebrile and asymptomatic. The mother left her bed in a few days and was walking without any difficulty by the tenth day, ascending and descending stairs with entire ease.

I have had 3 similar cases, in 1 of which the fetus could not be revived, although it was born with visible heartbeats.

The aftercoming head, arrested in the inlet, is the principal cause of the high fetal mortality rate associated with pelvic presentations. Faced with this frequent, difficult and amotile situation, no obstetrican should disregard an operation that can correct the dystocia without physical harm to the maternal organism. When the life of the child hangs on the thread of a small technical detail, professional responsibility requires the surgeon to take advantage of a procedure without which he is helpless to save it. When all maneuvers for liberation of the fetal head have failed and the fetus is still alive there remains but one solution, delicate but simple, harm-

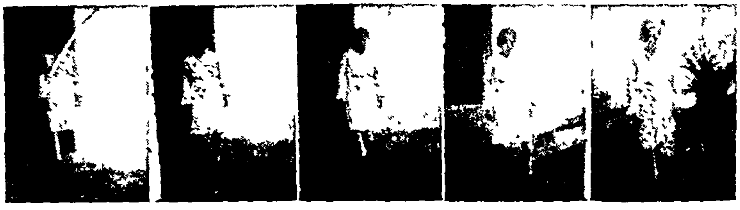

Fig. 1—Photographs taken on the eighth day after symphysiotomy.

Orthopedic Surgery

The Surgical Treatment of Painful Spasm

GEOFFREY PLATT, M.Ch.

AYLESBURY, ENGLAND

In cases of nonprogressive flexion spasms good results may be obtained by mechanical devices that apply powerful correcting forces two or three times daily for periods of about thirty minutes each.

In cases of severe involvement, operation by one or all of the following procedures may give excellent results: obdurator neurectomy; division of the tendon of the iliopsoas muscle; transplantation of the hamstring tendons to the back of the femur; division of the nerves to the gastrocnemius muscle, and section of the achilles tendon.

These combined operations can be used to give great relief to patients with flexion contractures and spasms due to disease of the spinal cord.

PAINFUL spasm is a most distressing feature in many cases of disease of the spinal cord. It interferes with sleep and often prevents sitting in a chair. The patient is in many cases afraid to move lest this precipitates further painful contractions.

In the early stages the deformity can be passively corrected. If it is allowed to persist, however, secondary contracture will occur and extensive orthopedic procedures become necessary to correct the fixed deformity.

It is most important, therefore, in the management of disease of the spinal cord, that no position of deformity should be allowed for more than short periods and that flexion of the hips and knees should be corrected by the patient's lying prone for a period each day, the feet being supported in the neutral position. Adduction of the hips should be corrected by firm pillows placed between the legs.

Correction of Contractures.—Once contractures have formed, it is necessary to introduce some extra mechanical force to counter the deforming effect of the muscles involved. There are many different ways in which this can be done, but the following principles may be identified:

1. Prolonged gentle pressure by springs, traction or turnbuckle plaster is not usually suitable, because the skin will not tolerate the forces required.

2. The skin will, however, tolerate great pressure for limited periods. If skillfully applied, such pressure constitutes a very powerful means of countering and correcting flexion contractures. Thus, a pressure of 100 pounds (45.4 Kg.) applied by a sling to knee or ankle is well tolerated for thirty minutes three or four times daily, and this can with advantage be followed by a period of lying prone.

3. One very effective method of pulling out the contracture that often develops at

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Submitted for publication Oct. 8, 1958.

La *symphyséotomie est concluante,* car lorsqu'elle est justifiée et correctement exécutée, elle satisfait à toutes les exigences de l'opérateur et permet de sauvegarder in extermis, avec une simplicité admirable, la vie du foetus.

SUMARIO

Diz que não se justifica a aversão dos obstetras á sinfisiotomia que considera uma operação racional e perfeita. Racional porque imita a natureza. A infiltração da sinfise permite distender o ligamento aumentando todos os diametros durante o parto, tal como acontece com a sinfisiotomia mais amplamente permitindo uma delivrance facil e livre.

Racional tambem porque apenas o repouso no leito permite uma restituição dos tecidos á sua integridade. É uma operação perfeita e *conclusiva porque bem praticada* concede resultado satisfatorio no momento em que a vida do feto pereclita.

RIASSUNTO

L'avversione degli ostetrici per la sinfisiotomia non è giustificata; si tratta, infatti, di un intervento razionale, perfetto e utile. Raziorale perchè imita la natura; la infiltrazione della sinfisi durante la gravidanza consente la distensione dei legamenti e l'aumento di tutti i diametri dello scavo durante il parto. La sinfisio*tomia ha lo stesso effetto, naturalmente in* misura maggiore, e consente al prodotto del concepimento di passare liberamente e con naturalezza. E' così razionale che il semplice riposo a letto senza alcun altro provvedimento consente la spontanea reconstrutio ad integrum della sinfisi.

Si tratta di un intervento perfetto e utile perchè, quando è indicato, dà piena soddisfazione all'ostetrico e consente in molti casi di salvare la vita del feto in pericolo, con una facilità che stupisce.

RESUMEN

No tiene justificación la averisón de los tocólogos respecto a la sinfisiotomía; es una operación racional porque imita a la naturaleza. La infiltración de la sínfisis durante el embarazo tiende a permitir la distensión del ligamento aumentando todos los diámetros del estrecho durante el porto. La sinfisiotomía tiene el mismo efecto aunque en mayor medida, permitiendo un paso más libre y natural. Es racional porque requiere solo un período de tiempo muy corto en cama durante el cual, sin medidas especiales, la naturaleza procede al "reconstitutio ad integro" de la región. Es una operación perfecta y concluyente ya que cuando bien justificada y llevada a cabo proporciona al tocólogo satisfacción completa salvando la vida del feto ya a punto de morir.

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> The hardest conviction to get into the mind of a beginner is that the education upon which he is engaged is not a college course, not a medical course, but a life course, for which the work of a few years under teachers is but a preparation.
>
> —*Osler*

Orthopedic Surgery

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Correction of Contractures.—Once contractures have formed, it is necessary to introduce some extra mechanical force to counter the deforming effect of the muscles involved. There are many different ways in which this can be done, but the following principles may be identified:

1. Prolonged gentle pressure by springs, traction or turnbuckle plaster is not usually suitable, because the skin will not tolerate the forces required.
2. The skin will, however, tolerate great pressure for limited periods. If skillfully applied, such pressure constitutes a very powerful means of countering and correcting flexion contractures. Thus, a pressure of 100 pounds (45.4 Kg.) applied by a sling to knee or ankle is well tolerated for thirty minutes three or four times daily, and this can with advantage be followed by a period of lying prone.
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Submitted for publication Oct. 8, 1953.

the knee is to place the patient prone and to hang a weight on the heel, which projects beyond the end of the mattress. This effect is increased if vertical upward pull is exerted on the knee through a sling-and-pulley system connected to a weight.

4. Heavy weights might, however, in certain circumstances tear through some of the contracted tissues; so the method described by Russell and Schuster (1951) is safer because the amount of pull is measured and, if the tissues give away, the strength of the traction is immediately decreased.

Thanks to the devoted work of both physiotherapists and nurses, these and other similar methods have had some striking successes, but in the worst cases several months' treatment has been necessary to pull out the contractures.

Surgical Operations.—Attempts to correct flexion contractures by operation have encountered difficulties. Thus division of tendons is often disappointing, and rigid splinting to maintain improved posture after operation may cause necrosis of the skin unless the procedure provides sustained reduction of the flexor spasms.

It must also be appreciated that discomfort from the surgical incision stimulates flexion spasms vigorously, and the results in the past have often been disappointing.

Division of the obturator nerves, however, gives striking relief to the patient in whom severe adduction spasms develop.

A striking success has been achieved recently by a combination of operations including neurectomy, tenotomy and tendon transplant. The groups of muscles most amenable to surgical treatment are the adductors and flexors of the hip, the hamstrings and the calf muscles, and the operations used include the following procedures:

1. *Adduction and Flexion of the Hip:* Obturator neurectomy (Stoffel, 1912) alone will relieve adductor spasms, and in cases of bilateral involvement without contracture the abdominal approach is used. In the cases I have observed, however, there is usually contracture of both the adductors and the hip flexors, and for this to be relieved it is necessary to divide the tendon of the iliopsoas muscle to relieve shortening or spasm of this muscle. An incision is made over the tendon of the adductor longus and brevis muscles are separated from their bony attachments, and the anterior and posterior divisions of the obturator nerve are then divided. By following the upper border of the adductor magnus muscle one is led to the point of insertion of the ilopsoas muscle, which can then be divided. In closing the wound, the origins of the adductors are not sutured back into place. After operation gentle assisted abduction and extension, combined with the patient lying prone, are employed on the day after the operation. Standing out of bed is begun on the third day.

2. *Flexion of the Knee:* The insertions of the biceps, semitendinosus, semimembranosus and gracilis muscles are transplanted to the femoral condyles by the technic of Eggers (1952). This may be combined with section of the branches of the posterior tibial nerve to the gastrocnemius muscle. After this operation a plaster is well tolerated; it is applied from the groin to the toes. This is removed after two weeks, and active extension of the knee is begun by the patient, together with lying prone.

3. *Spastic Equinus:* This condition can often be relieved by simple tenotomy of the *tendo Achilles.* This operation causes a shuffling gait with loss of spring in the foot, but this is of little importance to chair-ridden patients. This procedure may not only relieve painful spasms but enable the patient again to walk a little, with assistance.

Illustrative Cases.—The following case

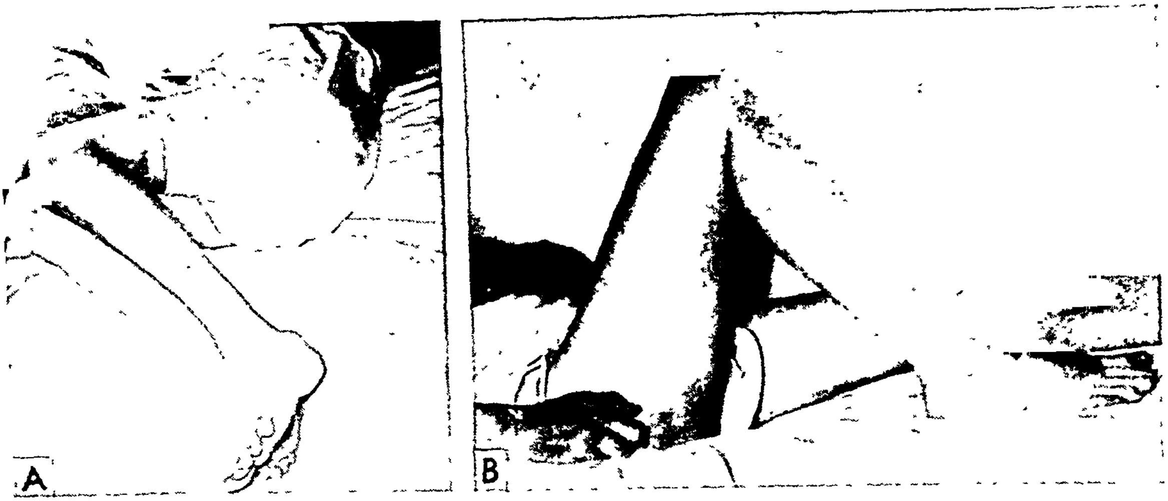


Fig. 1.—Patient in Case 1 after first operation, showing degree of spasm in right leg. In *A* the left leg has been placed in the position it occupied before the operation; *B* shows the degree of correction obtained.

reports illustrate the outstanding advantages of selecting a combination of these operations in cases in which there is no response to simple nonsurgical methods.

REPORT OF CASES

CASE 1.—A man in whom multiple sclerosis presented with difficulty in walking occurred in 1937, at the age of 24, walked sufficiently well to be accepted into the Army in 1939 but was invalided in 1941 because his legs had become weaker. From that time onward he became steadily worse, and he last walked in 1952, with assistance. In that year there was an episode of weakness in the left arm, which did not recover completely and so added to the patient's disability. He remained at work as a clerk, using an electric chair outside and a wheel chair indoors. By 1957 flexor spasms of the legs had become so severe that it was difficult for him to sit in a chair. The movement and pain caused by these disturbed his sleep and greatly impaired his efficiency at work.

On admission to Stoke Mandeville Hospital on Aug. 6, 1957, for assessment, he obviously had severe discomfort and pain during the spasms. He was demoralized by lack of sleep and appeared tired, pale and older than his years. The positive signs present were nystagmus on lateral and vertical gaze, severe spastic weakness of the left arm with sensory loss of the posterior column type; spastic chest and abdominal muscles, and spastic paraplegia with a tendency to flexion contractures. Flexion withdrawal of both legs was induced by even a light touch on the foot. There was little adduction spasm. By firm manual restraint the knees and hips could be extended to a minimum of 15 degrees of fixed flexion.

Operation on the left leg was done on August 16, with general anesthesia and relaxants. The tendons of the biceps and semimembranosus muscles were implanted into the posterior aspect of the femoral condyles, and the nerves to the calf muscles were divided. The tendon of the semitendinosus muscle retracted so vigorously into the wound that it could not be implanted. A plaster-of-paris cylinder was applied to the limb from the groin to the toes.

Postoperatively, incisional pain caused a temporary increase in spasms, but these were reduced by administering pethidine, and they became much less distressing after four or five days. The plaster was removed a fortnight after the operation. The incision and the skin were in excellent condition. There was a striking relief of pain three weeks after the operation. The pattern of the spasm had altered completely, and the frequency was much less. There was no flexion of the knee during a spasm. The quadriceps was observed to contract, but this was not painful. The spasm at the hip was less and no longer uncomfortable. There was little change in the right leg, but the patient could sleep prone for much of the night, which had been impossible before the

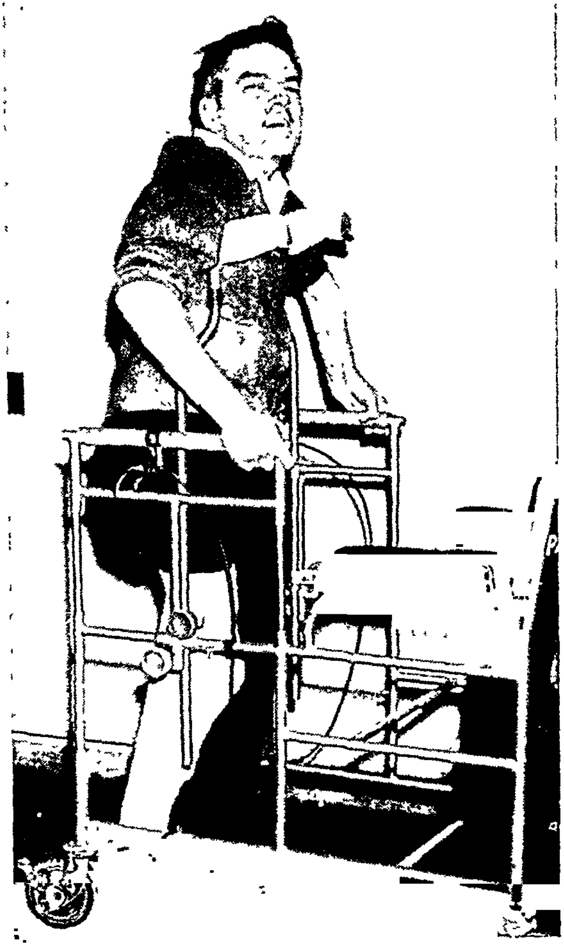


Fig. 2.—Patient in Case 1 commencing to walk in walking aid. Legs are supported by plaster.

operation. On discharge (September 16) he was just beginning to stand again, with assistance. He was deliberately discharged to avoid too long an interruption in his employment.

Follow-up.—When the patient was next seen, on October 2, he was distressed by spasm in the other (right) leg and pleaded for similar operation on this side also. This was done on November 8, the procedure being identical with the first except that it was possible on this occasion to implant the tendon of the semitendinosus muscle in addition to the others.

Postoperatively, pain made the spasms worse for a time, but the end result was the same as that achieved on the left side. The patient's general condition improved and he began to sleep well again. At the time of writing both legs are still subject to slight flexion spasms at the hips, but the amplitude of the movement is small. The patient can sit comfortably in a chair and can lie prone quite easily. He stood again, with support four weeks after the second operation. In March 1958 the improvement was well maintained and he was again at work.

CASE 2.—Multiple sclerosis occurred in 1939 in a woman aged 29, with paresthesias in the right arm and leg, stiffness, aching and weakness of the right leg and weakness of the right hand. From 1939 until approximately 1954 there was a remarkable series of fluctuations and relapses, often with considerable remission in the intervals. From 1954 the disability increased steadily because of increasing paraparesis, with frequent flexion spasms causing severe pain in the legs and the lower part of the back. In 1954 she would walk several miles and do all her shopping. In the three months before her admission her walking became much worse.

On admission to Stoke Mandeville Hospital on Aug. 25, 1957, at the age of 47, she could walk a few steps with assistance. She complained of stiffness and pain in all the muscles from her waist downward. She had difficulty in winding a watch, and her handwriting had deteriorated considerably.

On examination she was mildly euphoric and loquacious. The right fundus was pathologically pale. She read J1 with each eye. She had a slightly enlarged left pupil and slight left ptosis, but the external ocular movements were full. Slight left facial weakness, minimal ataxia on the finger-nose test and slight impairment of fine finger movement were noted. The deep reflexes in the arms were increased except for diminution of the right supinator jerk. Sensation was impaired and was mainly due to moderate loss of posterior column function. The abdominal reflexes were absent, and the lumbar and abdominal muscles were slightly spastic. A partial sensory level was found at the eighth thoracic dermatome, with mild loss of perception of all modalities below this. Her legs showed severe spastic paraparesis, with painful and distressing spasms of forced flexion and adduction. When these came on, the patient had considerable pain in the lower part of the back. The deep reflexes were increased and ankle clonus and extensor plantar responses were observed. The general condition of the patient was fair except for mild anemia (76 per cent hemoglobin, or 11.2 Gm.), but she looked tired and unwell.

Progress: The patient unfortunately acquired influenza during treatment, soon after admission, and this kept her in bed for a few days, during which she lost ground rapidly and flexion and adductor spasms became dominant over her weak powers of extension. Progress with physiotherapy was so slow and she had such considerable distress and pain with the spasms that it was decided to operate.

Operation: On November 8, with the patient under general anesthesia, the deformities of the hips and knees spontaneously disappeared, and there was little or no evidence of contracture. An incision was made over the tendon of the adductor longus muscle on each side. The tendon was divided from its point of origin and turned down to expose the anterior branch of the obturator nerve. One inch (2.5 cm.) of the nerve was resected. The point of origin of the adductor brevis muscle was then divided and the muscle turned down to expose the posterior division of the nerve, which also was divided. By following the upper margin of the adductor magnus muscle the point of insertion of the iliopsoas muscle was identified; it was observed to be contracted and was divided. The patient was then turned on her face. An S-shaped incision was made over the popliteal fossa and the upper part of the calf on each side. (This type of incision is used to prevent subsequent contracture of the scar.) The insertions of the semitendinosus, semimembranosus, gracilis and biceps femoris muscles were identified and divided. The first three tendons mentioned were transplanted into the posterior aspect of the medial femoral condyle and the last named tendon into the lateral femoral condyle. The motor branches arising from the posterior tibial nerve and supplying the soleus muscle were identified and divided. The wounds were then closed, but no attempt was made to reattach the adductor origins. The knees were immobilized in the straight position by padded plaster cylinders.

Postoperatively there was incisional pain of some severity that caused increased spasm for about ten days, and pethidine was required frequently to control this. After the plasters were removed, however, the incisions were observed to be in excellent condition, and the patient began to improve. As in Case 1, perhaps the most striking improvement was in her general appearance. This improvement was parallel with the lessening of her pain. Flexion spasm was replaced by extension spasm, which was not distressing. She began to stand with plasters about three weeks after the operation and can now, at the time of writing, five months after the operation, manage a few steps with assistance.

COMMENT

In Cases 1 and 2 there is progressive disease of the nervous system, with no prospect of a good recovery of crural functions, and for the patients in these cases a combined operation was employed, to deal with all the main muscle groups affected. This operation not only divided or

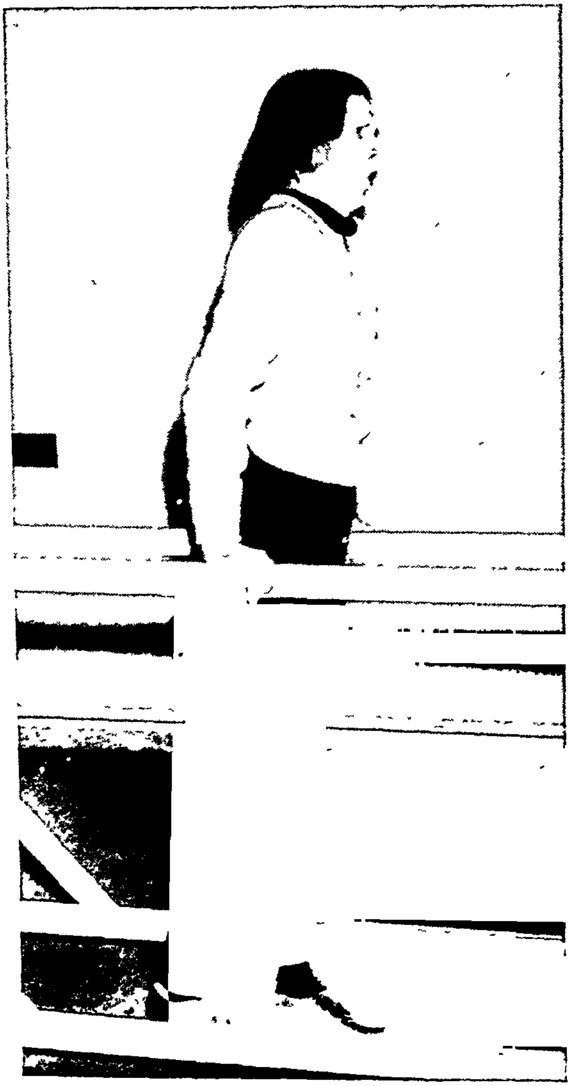
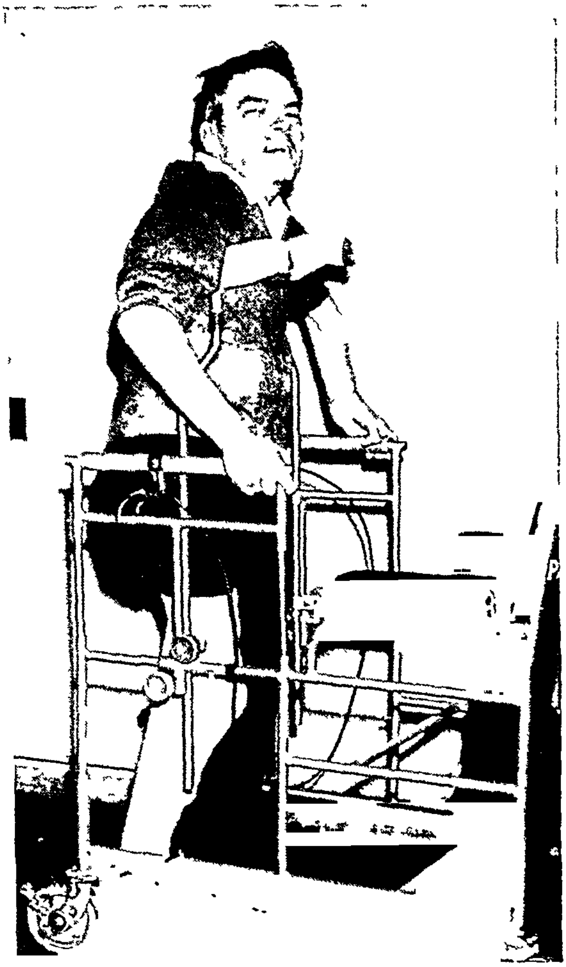


Fig. 3 (Case 2)—Patient walking between bars.



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SUMARIO

Nos casos de espasmos não progressivos de flexão tem sido obtidos bons resultados por meios mecanicos que aplicam forças potencialmente corretas por 2/3 veses diariamente em periodos de cerca de trinta minutos.

Nos casos de comprometimento grave a operação por um dos metodos po, dera dar excelentes resultados: secção do tendão do psoas iliaco; transplante do costureiro para a face posterior do femur; secção dos nervos dos gastrocnemicos ou secção do tendão de Achiles.

Tais operações combinadas podem seu empregadas para dar *grande alivio aos* pacientes que apresentam contraturas em flexão e espasmos devidos a molestias da medula.

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The pharmacies were also centers of information, conversation and culture, dispensers of news, gossip, and rumors, and popular academies where people were informed of medical progress. Many Arabic words, which were later incorporated into our language, viz., alcohol, drug, alkali, sirup, sugar, spinach. alfalfa, admiral, arsenal, pillow, cipher, star, algebra, zero, zenith, and julep, were created during the interminable conversations held between the pharmacist and his customers while they gazed at the spurting waters in the blue tile fountains.

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paralyzed the muscles, causing deformity, but converted the hamstring muscles from knee flexors to thigh extensors. The early postoperative results are most gratifying and much better than have been achieved here by other means. Relief of both pain and spasm is most noticeable, and there is every indication that this type of operation can keep these unfortunate patients much more comfortable and active than would otherwise be possible.

Author's Note: I should like to thank Dr. W. Ritchie Russell for his stimulating cooperation and the physiotherapists and nursing staff of Stoke Mandeville Hospital for their care and help in the management of these cases.

RÉSUMÉ

Dans certains cas de spasmes en flexion non progressifs de bons résultats peuvent être obtenus par des procédés mécaniques, exerçant de puissantes forces correctives (30 minutes deux ou trois fois par jour).

Dans les cas graves une des opérations suivantes (seules ou associées) peut donner d'excellents résultats: neurectomie de l'obturateur, division du tendon du psoas iliaque, transplantation tendineuse, division des nerfs du muscle gastrocnémien et section du tendon d'Achille.

Ces opérations combinées peuvent être utilisées en vue de soulager les malades atteints de contractures en flexion et de spasmes dus á une affection de la moëlle épinière.

RIASSUNTO

Nei casi di spasmo in flessione stabilizzato si possono ottenere buoni risultati per mezzo di apparecchi che applicano trazioni 2/3 volte il giorno per periodi di circa mezz'ora.

Quando la lesione è grave, si possono ottenere risultati eccellenti con uno dei seguenti metodi: neurectomia otturatoria, sezione del tendine dell'ileopsoas, trapianti tendinei, sezione dei nervi del gastrocnemio, sezione del tendine di Achille.

Questi interventi combinati possono portare un grande vantaggio nelle contratture in flessione da lesioni midollari.

ZUSAMMENFASSUNG

In Fällen von nicht progressiven Beugungsspasmen lassen sich durch die Anwendung mechanischer Vorrichtungen, die zwei- oder dreimal am Tage 30 Minuten lang eine starke korrigierende Kraft ausüben, gute Erfolge erzielen.

In schweren Fällen kann chirurgische Behandlung durch Ausfuhrung einer oder aller der folgenden Eingriffe ausgezeichnete Resultate hervorbringen: Resektion des Obturatornerven, Durchtrennung der Sehne des Iliopsoasmuskels, Transplantierung der Kniebeugesehnen auf den Oberschenkel, Durchtrennung der zum Gastrocnemius führenden Nerven und Durchschneidung der Achillessehne.

Eine Kombination dieser Operationen kann zur grossen Erleichterung von Patienten mit Beugungskontrakturen und Beugungskontrakturen und Beugungsspasmen als Folge von Erkrankungen des Rückenmarks führen.

RESUMEN

En los casos de espasmos de flexión no progresivos pueden obtenerse buenos resultados con dispositivos mecánicos que aplican fuerzas correctoras dos o tres veces al día en aplicaciones de unos 30 minutos.

En los casos graves pueden obtenerse buenos resultados por cualquiera de estas operaciones: neurectomía del obturador, sección del tendón del psoas-ilíaco, transplantación de los tendones de la pata de ganso o del biceps, sección de los nervios de los gastrocnemios o sección del tendón de Acquilies.

Pueden usarse combinaciones de estas operaciones para aliviar considerablemente a enfermos con espasmos o contracturas de flexión consecutivas a enfermedades de la médula espinal.

SUMARIO

Nos casos de espasmos não progressivos de flexão tem sido obtidos bons resultados por meios mecanicos que aplicam forças potencialmente corretas por 2/3 veses diariamente em periodos de cerca de trinta minutos.

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Plastic and Reconstructive Surgery

Ischemic Contracture of the Forearm and Hand

ALIPIO PERNET, M.D., F.I.C.S.*

SAO PAULO, BRAZIL

The author reports a recent case of severe ischemic contracture of the forearm and hand of a boy aged 19, whose hand had been bitten by a dog three weeks prior to his admission to the hospital. The contracture appeared soon after a single intravenous injection of Chlorpromazine. The appearance was that of a Volkmann's contracture. Operation was performed in two stages, with an interval of two months. Although definite improvements have been obtained, it is possible that further surgical intervention will be required after sufficient time has elapsed to indicate clearly the type of additional treatment most needed by the patient.

IN a recent case, severe ischemic contracture of the forearm and hand appeared soon after one unpropitious injection of Chlorpromazine. A boy aged 19 was admitted to the contagious disease section three weeks after a dog bit his right hand.

The patient was so excited at the moment of the admission that the nurse may have injected the chemical substance under the fascia, in the vicinity of the ulnar nerve or around the brachial artery near the anterior elbow crease.

The patient recovered within a couple of days and was discharged after all laboratory tests had given negative results. Three months later he came to the outpatient clinic complaining of considerable weakness of function in the right thumb and complete impossibility of using the right hand, the last three digits of which were almost entirely fixed in flexion. It was noted then that there was paralysis of all muscles below the elbow and that sensitivity was absent in the median and ulnar superficial areas.

The intrinsic muscles of the hand were also paralyzed, and this produced a claw-hand type of deformity. The subcutaneous tissue was very hard, with first-degree stiffness of all the finger joints, and the whole extremity was pale and cold.

The clinical appearance was that of Volkmann's contracture, but one could not understand at once how it had happened without a history of compression of the artery or the nerves by any kind of bad splintage, by fracture or by some other type of injury.

The myoelectric test had revealed total denervation of the forearm and muscles innervated by the median and ulnar nerves.

The wrist flexors were tested by asking the patient to flex the wrist slightly against resistance applied at the level of the metacarpal phalangeal joint of the

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Read at the International Congress of Plastic Surgery, London, July 1959.

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thumb. The wrist movements were limited to 30 degrees, with severe contracture of the fingers, a slight radial pulse and loss of sensation in the five digits. The right hand was painful and really useless (Fig. 1).

The cause of Volkmann's contracture has been extensively discussed since Volkmann, in 1881, suggested incorrect bandaging. Murphy and Brooks reported in 1914 the venous occlusion; Molonguet and Seneque in 1928 emphasized the responsibility of subfascial hematoma. Leriche, in the same year, pointed out changes in the muscles similar to those associated with cardiac and pulmonary infarction. In 1935 Griffiths gave an account of the presence of edema in a neighboring fascial area, and Nassart pointed out that muscles were infiltrated by aerohemorrhagic exudate.

According to Cahuzac and Iung (1946) and Marino (1946) considered the responsibility of arterial stress by traumatic factor proposing the sympathectomy or nerve block to overcome the vascular spasm. Iselin (1955) had established the nerve lesions as the only responsible cause of the intrinsic muscle paralysis and tried to explain the claw deformity by attributing it to ischemic degeneration. Seddon (1956) reported that necrosis is due to arterial occlusion and in 1957 emphasized the presence of edema alone in a neighboring aponeurotic area. Benjamin (1957) also considered edema an important pathologic factor in the swelling of the muscles associated with ischemic contracture. He suggested that "tension from edema in a neighboring fascial area may be the stimulus that maintains the spasm." This situation was well observed and demonstrated in his 3 personal cases and in my patient, in whose case decompression of the edema helped in restoration of the arterial circulation.

It seems clearly reasonable that contracture will occur if a certain degree of ischemia persists for an adequate time. I was not able to find any reference to the action of 3-hydrochloride-dimetilamino-3-propil-10 (Fenotiazin) as a chemical agent responsible for such severe ischemic degeneration of the muscles and peripheral nerves.

The flexor muscles, affected by oxygen deprivation combined with infiltration, presented several structural changes. Initially they became indurated and lost their elasticity; later the increasing fibrosis of the serum exudate changed the muscles into an atrophied, contractured mass.

What determines the later development of Volkmann's contracture seems to be the severe venous engorgement and fibrosis, producing ischemia.

Soon after the appearance of the arterial spasm, anoxia due to a diminished blood flow, as Cohen (1940) noted, causes increased capillary permeability and exudation of fluid. Shortly thereafter, pressure in the flexor muscles of the forearm is increased, because these muscles are enclosed by unyielding fascia.

A vicious circle is set up in such a case, in which increased tension maintains the arterial spasm and the consequent ischemia aggravates the edema; hence the tension in the fascial area.

My patient had flexion contracture of the digits for several months, during which the flexed wrist showed a typical deformity. The later effects of fibrosis in this case were paralysis of the median and ulnar nerves and complicating lesions resulting in severe disturbance of the intrinsic muscular balance of the whole hand.

The affected zone, however, differs in shape and distribution of tissue changes, as was observed in the specimen examined. During the first operative examination it was hardly possible to distinguish the muscular damage due to ischemia from that produced by the degeneration of nerve fibers. I did keep in mind, however, the fact that peripheral nerve tissue is mani-

Plastic and Reconstructive Surge

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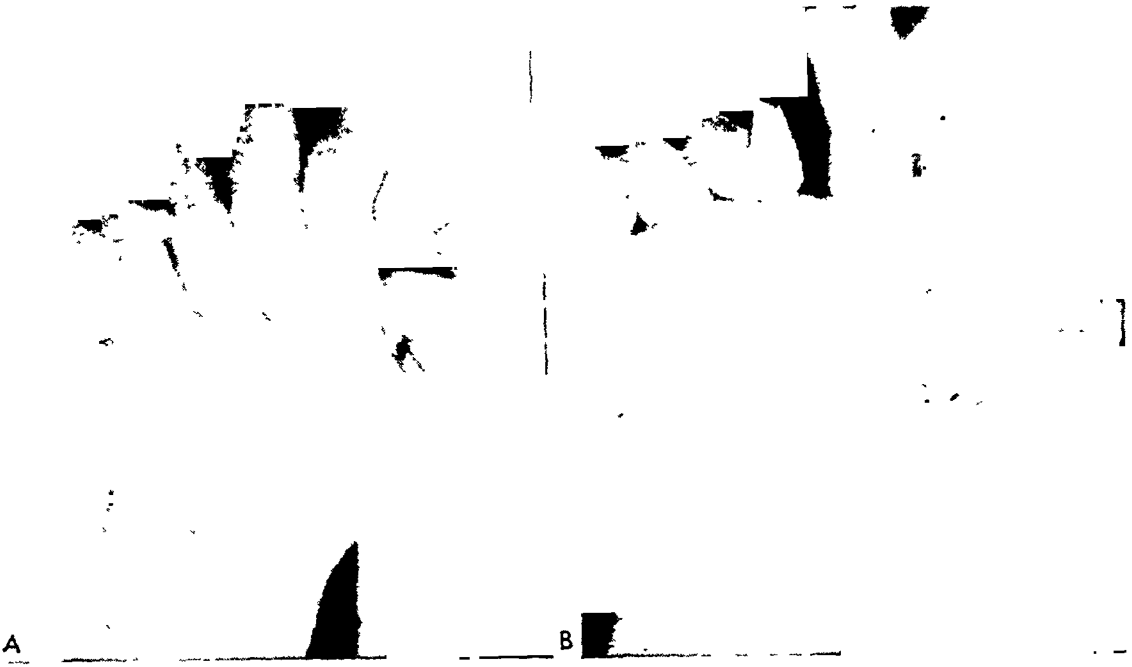


Fig. 1—*A*, before treatment. *B*, after second operation.

3. Sorrel's method.
4. The Fontaine, Müller and Montorsi procedure, with a diaphysis resection of the radius and ulna.
5. Transplantation of the flexor digitorum subliminis into the tendinous remains of deep flexors (in cases of mild involvement).
6. The muscle slide operation proposed by Page.
7. Scaglietti's procedure or the Scaglietti-Gosset operation.
8. Arthrodesis of the wrist (in cases of severe involvement with loss of control of the joint).

Phalen and Miller (1947), treating paralysis of the long flexors, have transplanted the extensor carpus radialis longus into the tendons of the flexor profundus, and it seems that this type of transplant might be eminently suitable in many instances of established Volkmann contracture.

According to Griffiths (1951), a rather formidable problem is to decide accurately, at the time of operation, which muscle tissue is hopeless and which will survive. Griffiths stated also that some of Parkes' premises are questionable and that the operation acts more as a tenodesis than as a working tendon transplant, but that is of little moment compared with the fact that it certainly appears to improve both function and appearance.

In 1951 Parkes pointed out that in most of the methods currently advocated the deformity is corrected by increasing the absolute or relative length of the contracted muscles, little attention being given to the problem of restoring adequate voluntary power to the long flexors tendons available for transplantation, but this eliminates the trick movement and none of the muscles made available has a range of movement to restore full function to the fingers.

My patient was operated on in two stages. At the first operation, with a plexus block and a bloodless field, a longitudinal incision was made in the midline of the forearm, starting at the end of the elbow and extending to 12 cm. above the wrist.

festly less susceptible to anoxia than are muscles. It is conceivable that in the presence of mild ischemia the nerve fibers undergo wallerian degeneration early.

The paralysis of the median and ulnar nerves was well tested and the etiologic factors investigated in the case here reported, and the only answer, apparently, was that Chlorpromazine was responsible for the degenerative changes.

Reflex contracture and infectious diseases were also investigated, and the deformities produced by paralysis of the lumbrical and interosseous muscles were well identified.

Traumatic factors, mainly the different types of fracture, prolonged external compression or severe strain of the brachial plexus and humeral artery, were also considered in the study but were not present in this case.

In reviewing the evolution of Volkmann's contracture I observed references in the literature to spontaneous recovery. As is known, some structural changes are reversible, in which circumstances excision of the infarct is done only in cases of severe involvement (Seddon, 1956).

When conservative treatment is used, the only criteria are supplied by pathologic examination.

According to Seddon (1956), recovery occurs in two phases:

1. In the forearm muscles there is a fairly quick recovery, earlier in the extensors than in the flexors, proceeding at about the same rate in all muscles. In the hand, recovery takes much longer. After a typical degeneration of nerve fibers the rate of regeneration after three months is less than 1 mm. a day for sensory fibers and rather less for motor fibers in the proximal-to-distal progression.

This kind of reversible damage was demonstrated experimentally in the rabbit by Clark and Blomfield (1946). Under favorable conditions the dead muscle fibers are removed and shortly replaced by new ones, which grow longitudinally along the surviving sarcolemmal tubes from the unaffected muscle above and below.

2. Partially reversible damage of the muscles may show partial recovery, but a permanent contracture may develop.

Histologically, both types of damage reveal diffuse fibrosis. Griffiths (1950) maintained that regeneration may occur years later, considering that complete and continuous function is an important stimulus.

In the case of my patient the initial recovery was observed in the extensor carpus longus, the extensor carpus brevis and the extensor digitorum subliminis. Shortly thereafter, the patient gained some degree of dorsiflexion of the wrist. The abductor pollicis longus and the flexors are progressively recovering (Fig. 1*B*).

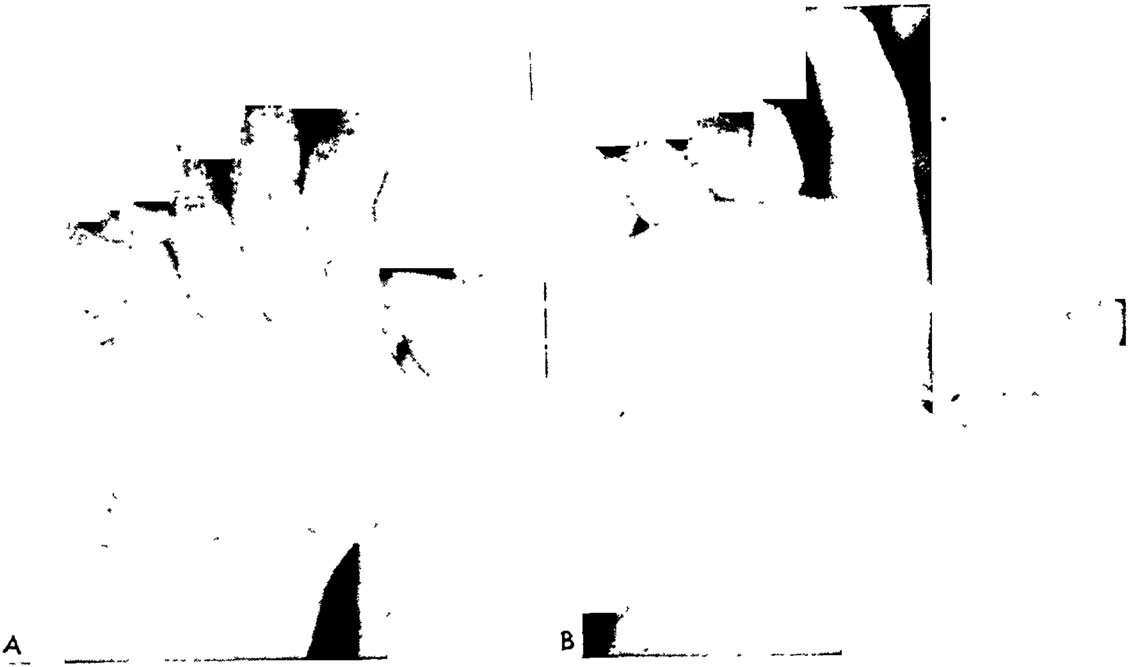
The thenar, hypothenar and interossei have not yet regained function, but their partial recovery is expected soon.

Many surgical methods have been devised to combat the etiologic factors and to correct the vicious position in such a way as to restore power to the paralyzed muscles. Various operative procedures, including certain tendon and muscle transplantations, have been designed to accomplish the two purposes at once.

The first requirement is to secure relaxation of the flexors of the wrist when they are retracted and then to lessen hypertrophy of the long extensors, a factor that plays an important part in the claw deformity of the fingers (D'Aubigné, 1955).

Eight principal methods are used:

1. Ombredanne's method, with external pin fixation.
2. Steindler's technic, with separation of the flexors of the wrist from their points of origin and reimplantation lower, on the freshened interval aspect of the ulna.



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My patient was operated on in two stages. At the first operation, with a plexus block and a bloodless field, a longitudinal incision was made in the midline of the forearm, starting at the end of the elbow and extending to 12 cm. above the wrist.

The median and ulnar nerves were exposed and dissected free a little upward, from the end of the elbow to the inferior third of the forearm. No macroscopic nerve lesions were observed except severe neighboring fibrosis. The ulnar nerve was then rerouted. The superficial muscles were examined, and the necrotic portions of the carpus flexor ulnaris were excised entirely. Some of the muscles of the flexor group were pale, heavily fibrotic, blue at the ends and yellow in the middle, but all matted together.

The palmaris longus and the palmaris brevis tendons were dissected free and cut off from the muscular portion; the brachial aponeurosis was excised completely. The deep muscles were brought into view after the aponeurectomy had been carried out; the flexor pollicis longus and the deep flexors of the fingers were largely ischemic and were only partially excised.

Some degree of correction was obtained after the other flexors had been stripped in the midportion of the forearm.

As there was no real voluntary power in the finger flexors, the joints were mobile and there was so severe a contracture of the long flexor muscles that I decided to transplant the tendon of the extensor carpus radialis longus into distal stumps of the profundus flexor, after dividing the flexor carpus ulnaris and the palmaris longus in order to allow dorsiflexion of the wrist. Postoperatively the patient was rehabilitated for two months while I waited for the extensors to regain their strength before using them to activate the fingers. As both the median and ulnar nerves had suffered severe compression by extensive and hard fibrosis and were damaged by ischemia, I considered the possible necessity of a nerve pedicle graft obtained from the medial cutaneous nerve of the forearm and the motor division of the median itself. Before I had decided to do the graft, however, the patient again showed flexion contracture of the digits, and the improvement gained by rehabilitation was lost.

After two months I performed the second operation, as follows:

General anesthesia was employed. The linear attachment of the flexor digitorum subliminis was partially stripped, and as the flexors of the wrist had been entirely dissected free and stripped a fair correction was obtained. We carried out the Scaglietti technic with an immediate extension of the wrist and of the last four fingers.

In the third month after the operation there was a strong tendency to recurrent contracture, but with careful supervision by the occupational therapist, with his methods of intensive reeducation and dynamic splintage, this tendency will eventually disappear. The advantages claimed for the Scaglietti surgical technic over those advocated seems to me, in the case I am reporting, the best treatment I could select for my patient.

Serial stretch splints will be maintained for many months, with constant care and supervision to prevent breakdown of the skin.

At the time of writing the patient has 80 degrees of elbow movement; the wrist is held in 20 degrees of palmar flexion, and 10 degrees can be obtained passively. He can now grasp some subjects, dress himself more easily, grip large objects and carry weights that are not too heavy. He feels that the right hand is now really becoming useful. It seems that the treatment of choice depends upon the duration and severity of the lesions, initially or later. It is advisable, however, to excise all tissue irreparably damaged by ischemia and to transplant or lengthen the shortened tendons even in the active muscles. Such reconstructive procedures, when indicated and well selected and performed, usually give highly satisfactory results.

CONCLUSION

Analysis of the symptoms in the case presented showed that the characteristic deformity of ischemia contracture of the forearm and hand is due to the contracture and paralysis of the flexor muscles of the wrist, the fingers and the intrinsic musculature of the hand (Fig. 1). Correction of the vicious positions caused by muscle retraction was well accomplished by nerve dissection and the Scaglietti operation.

The power of the intrinsic muscles of the hand is increasing well, and the patient now can work and swim with only mild discomfort. The final result, after only eight months, in such a desperate case seems a worthwhile accomplishment and means a great deal to the patient in his military career.

Some main facts should be emphasized:

1. The role of chlorpromazine as an etiologic factor in severe ischemic contracture.
2. The slide operation performed by the Scaglietti technic as a second stage procedure. This was the only possible surgical correction of the deformity.
3. The use of elastic splints. This must be maintained for many months more before complete recovery is obtained.

Author's Note: It is a pleasure to acknowledge the cooperation of Dr. Milton Yacavoni, who assisted in two surgical stages, and the helpful coordination of Brig. Francisco Milanez and Dr. R. Taliberti during the successive stages of rehabilitation.

CONCLUSIONI

Lo studio dei sintomi, in alcuni casi presentati, permette di concludere che la deformazione caratteristica della contrattura ischemica dell'avambraccio e della mano è dovuta a contrattura e paralisi dei muscoli flessori del polso, delle dita e della muscolatura intrinseca della mano (Fig. 1). La correzione di questo atteggiamento viziato si è ottenuta con la dissezione dei nervi e l'operazione di Scaglietti.

La forza dei muscoli intrinseci della mano aumenta considerevolmente e i malati ora possono lavorare con un minimo di impaccio. Il resultato definitivo, a distanza di otto mesi, dimostra come questa cura sia molto efficace in casi disperati e importante ai fini della carriera.

Alcuni punti meritano di essere considerati:

1. Il ruolo della cloropromazina come fattore etiologico nella contrattura ischemica grave.
2. L'intervento di Scaglietti, usato come secondo tempo, che rappresenta l'unico modo chirurgico di correggere la deformità.
3. L'uso di stecche elastiche che debbono essere mantenute per molti mesi prima che si sia ottenuta la guarigione completa.

CONCLUSIONES

El estudio de los síntomas que caracterizan la deformidad en la contractura isquémica del antebrazo y de la mano demuestra que es debida a contractura y parálisis de los músculos flexores de la muñeca y de los dedos de la mano (Fig. 1). La corrección de las posiciones viciosas causadas por la retracción muscular se consigue bien con la disección nerviosa y con la operación de Scaglietti.

La potencia de los músculos intrínsecos se aumenta bien y así el lesionado puede trabajar y mover su mano con bastante comodidad. El resultado final después de 8 meses en un caso desesperado parece verdaderamente haya valido la pena y la permitido al paciente continuar en su carrera militar. Debe llamarse la atención sobre algunos hechos:

1. El papel de la Clorpromazina como actor etiológico en la contractura isquémica grave.
2. La operación de deslizamientos de Scaglietti debe aplicarse en un segundo tiempo.
3. El uso de las férulas elásticas. Deben

mantenerse aplicadas durante muchos meses antes de obtener la curación completa.

CONCLUSIONS

L'auteur décrit un cas de contracture ischémique de l'avant-bras et de la main. L'analyse des symptômes a montré que la déformation caractéristique est due à la paralysie des muscles fléchisseurs du poignet, des doigts et de la musculature intrinsèque de la main (Fig. 1). La correction des positions vicieuses causées par les rétractions musculaires a été faite avec succès par une dissection nerveuse et l'operation de Scaglietti.

La force des muscles intrinsèques de la main se récupère de façon satisfaisante, et le malade peut à nouveau travailler et nager, n'étant que peu incommodé. Le résultat final, après huit mois seulement et dans un cas qui paraissait désespéré, semble être une réussite estimable; il est très important pour la carrière militaire du malade.

Quelques faits méritent d'être mis en évidence:

1. Le rôle de la chlorpromazine comme facteur étiologique dans les cas de contracture ischémique grave.
2. La valeur de l'opération de Scaglietti en tant que deuxième temps opératoire, qui était dans ce cas la seule méthode possible.
3. L'utilisation d'éclisses élastiques qui doivent être maintenues en place durant plusieurs mois avant que la guérison totale soit obtenue.

CONCLUSOES

A análise dos sintomas no caso apresentado demonstram que a deformidade caracteristica da contratura isquêmica do antebraço e da mão é devida a contratura e paralisia dos músculos flexores do punho, dedos e da musculatura intrinseca da mão (Fig. 1). A correção imediata das posições viciosas causadas pela retração muscular foram obtidas pela neurolise mediano-cubital e pela operação de Scaglietti. A força muscular intrinseca de mão está aumentando gradativamente bem e o paciente pode agora trabalhar e nadar com pequeno disconforto e dificuldades. O resultado final imediato, após somente oito meses, n'um caso tão grave parece significar uma grande melh ora funcional o que representa uma grande possibilidade em sua carreira militar.

Alguns fatos principais devem ser salientados:

1. O papel da Clorpromazina como fator etiologico de tão grave contratura isquêmica.
2. A operação de deslisamento feita pela técnica Scaglietti como segundo estagio cirurgico foi o único método possivel de atenuar a deformidade.
3. O uso de tração elastica deve ser mantido por muitos meses mais antes que se possa contar com uma recuperação funcional maior.

SCHLUSSFOLGERUNGEN

Die Untersuchung der Krankheitserscheinungen in dem hier dargestellten Falle ergab, dass die charakteristische Entstellung der ischämischen Kontraktur des Unterarms und der Hand durch die Kontraktur und Lähmung der Beugemuskeln des Handgelenks, der Finger und der inneren Handmuskeln zustande kommt (Abb. 1). Eine Verbesserung der durch Muskelverkürzung verursachten schlechten Stellungen liess sich gut durch Nervendurchschneidung und durch die Scagliettische Operation erzielen.

Die Kraft der inneren Handmuskeln nimmt gut zu, und der Patient kann jetzt mit nur geringen Beschwerden arbeiten und schwimmen. Das nach nur acht Monaten erzielte Resultat scheint in einem so verzweifelten Falle ein lohnendes Ergebnis zu sein und ist für den Patienten in seiner militärischen Laufbahn von grosser Bedeutung.

Einige wesentliche Punkte sollen hervorgehoben werden:

1. Die Rolle des Chlorpromazins als ursächlicher Faktor bei schwerer ischämischer Kontraktur.
2. Die mit der Scagliettischen Technik ausgeführte Gleitoperation als zweites Stadium des Eingriffs. Dies war die einzige Möglichkeit, die Entstellung chirurgisch zu verbessern.
3. Die Verwendung elastischer Schienen. Dies muss viele Monate lang durchgeführt werden, bevor es zu einer völligen Wiederherstellung kommt.

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Make a thorough inspection. Never forget to look at the back of a patient. Always look at the feet. Looking at a woman's legs has often saved her life.

Failure to examine the throat is a glaring sin of omission, especially in children. One finger in the throat and one in the rectum makes a good diagnostician.

When listening to heart murmurs you must tune up your auditory hair cells and flatten out your Pacinian corpuscles.

The chief function of the consultant is to make a rectal examination that you have omitted.

—*Osler*

Editorials

History of Gynecology from Prehistoric to Modern Times

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He who cannot render an account to himself of at least three thousand years of time, will always grope in the darkness of inexperience, and merely live from day to day.—Goethe.

THE gynecologist, seeking the dawn of his art and science, finds that to glean the scattered facts of gynecologic history he must contend with the background of the main currents of medical thought.

Contributions to the development of gynecology were made by general practitioners, physician-anatomists, philosophers and, later on, physiologists, pathologists, bacteriologists, chemists, surgeons and physicists.

Practice in prehistoric times can only be conjectured. Information is meager and limited to a few statues and bas reliefs.

Primitive man was aware of the phenomenon of menstruation, reproduction and its complications; of these there are no records.

The earliest cultures of which we have written records arose simultaneously in the great river valleys of Egypt and Mesopotamia about 5000 B.C. Herodotus tells us that the early Babylonians had no physicians, and that the sick were brought to the market place and prescribed for by any passing person. This is a practice that still exists today, when neighbors and relatives make diagnoses and suggest treatment. Gynecology received scant consideration and did not grow, for demons were considered to be the cause of disease and were dealt with by incantations and magic. Since evil spirits were considered the cause of disease, they were either driven or coaxed out of the body by rituals with such obnoxious substances as human or animal dung.

Our source of knowledge of ancient gynecology is derived from Egyptian documents known as papyri. The oldest is the Kahun papyrus, which dates back to about 2000 B.C. and is limited to gynecology and veterinary medicine. Diagnosis was made on the basis of the patient's symptoms and external observation of the breasts, abdomen and external genitalia. Prolapse of the uterus, being outside the body cavity, was commonly observed; many general and local symptoms were attributed to this condition. Incantations were not employed, but various concoctions of incense, dates, oil, organs and the excreta of animals were smeared on the breasts, abdomen and external genitalia. Thus, crocodile dung, mixed with a pastelike vehicle, was made into a suppository to be inserted into the vagina. These varied mixtures were used for sterility, to produce abortion and to combat infection and hemorrhage. Surgical procedures were not mentioned.

From the Ebers papyrus (which dates back to about 1550 B.C.) came another long list of prescriptions. To replace the prolapsed uterus, a base of honey and petroleum was smeared on the finger of the patient, and the uterus was then pressed upon for replacement. If these measures failed, fumes of wax and hot charcoal were recommended (see Fig. 1).

Palm fruit and cypress, blended with oils, were used to treat inflammation of the vulva and uterus. Peppermint water, probably in the form of douches, was prescribed to cool the vulva and the uterus. Tampons of jaspis honey and collyrium were allowed to remain for four days in the vagina to overcome a watery discharge, associated with pruritus. To prevent leukorrhea the dried liver of a swallow was rubbed with sour milk and then placed on the breast, belly and joints. Thus, there were extant many prescriptions for female ailments; to regulate the menses, a douche of a mixture of garlic and wine or a fennel, wonder-fruit, honey and sweet beer. To insure abortion during the first, second and third months, dates, onions and fruit of the acanthus were crushed in a vessel containing honey, sprinkled on a cloth, and applied to the vulva.

Egyptian knowledge of gynecologic disease was extremely vague. Superficial examinations of the external genitalia, vagina and cervix were undertaken, but Egyptians knew nothing of the anatomy of the intrapelvic genitalia, the ovaries and the tubes. Infections were common, since prostitution existed. Childbirth injuries and their complications occurred, but there were no references to gynecologic surgery. Therapy was limited to local applications and to the use of tampons, fumigations and vaginal injections or douches.

During the forthcoming month of 1959 and as long thereafter as possible, the editorial pages of the Journal of the International College of Surgeons *will be honored by presentations of rare and extraordinary historic value, the lectures presented at the International Surgeons' Hall of Fame on medical and surgical history from the earliest recorded achievements to those of our own times. We believe that* Journal *readers who were not able to attend the lectures will find them as exciting as did the audiences present at their delivery. The story of progress in the healing arts and the giants of medicine and surgery to whom we owe the amazing brilliance and scope of modern achievements is intrinsically thrilling and is a vital part of the education of every cultivated man and woman, inside or outside the profession. It is altogether fitting that it should appear in these pages, since the International College of Surgeons is first, last and always a teaching institution.*

Temples served as gathering sites for the sick. Priest-physicians and physicians under the patronage of officials of the temple combined prayer with a multitude of prescriptions. As long as these practitioners followed the sacred or Hermetic books of Thoth, the god of wisdom, no blame was incurred, even though the patient died. Although Egyptians had for generations embalmed their dead, they possessed only the most rudimentary ideas of anatomy and physiology; they recognized that the uterus was the seat of

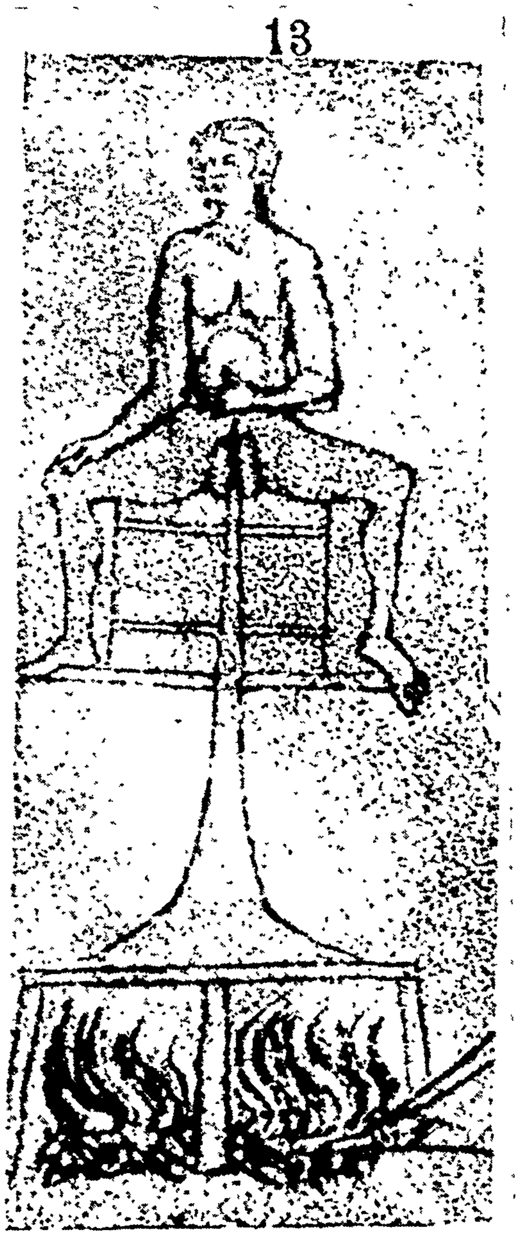

Fig. 1.—Fumigating apparatus.

pregnancy. They called the uterus "Mother of Men," but they had no conception of the ovaries or tubes. From the gynecologic view, there were extant only recipes to prevent pregnancy, to cause abortion and to prevent the womb from wandering throughout the body. At best, Egyptian medicine never achieved the scientific attitude adopted by the Greeks.

The ancient Jewish conception of disease adhered closely to that held by Babylonians, Assyrians, and Egyptians. The Jews believed that illness and epidemics were expressions of the wrath of God. Accordingly, Jews sought relief in prayer. sacrifice and an exemplary life. They left behind no medical treatises or documents. Biblical literature, however, contains some reference to medicine in general, with a few comments of a gynecologic nature. Symptoms were recognized as a manifestation of inward changes. Their sanitary and hygienic laws were striking. The regulation of the sex life of a woman, particularly in respect to menstruation and parturition, may have been a factor in the low incidence of carcinoma of the cervix among Jewish women. It is also thought that circumcision, in preventing the accumulation of smegma, may have been an additional preventive.

Contraception, though prohibited, was practiced by ancient Jews. The sin of Onan suggests the common present-day practice of "withdrawal." Sterility was looked upon with reproach, and an effort was made to combat it by dieting, hygienic living, drugs and regulated coitus. A few Talmudic references are preserved in the Niddah, a section devoted to menstruation. Virginity was demanded of a bride; lack of staining on initial coitus often led to divorce and stoning. One test for virginity went like this: If a woman sat on a barrel of wine and one was able to smell the beverage on her breath, she had been deflowered; odor, on the other hand, was absent in a virgin.

In one of the sacred books (Charaka ayurveda) of the Hindus, a chapter was devoted to diseases of the female generative organs. While dissection of human bodies was not prohibited, it was not very pleasant. A body was placed in a stream for some days, or until it became putrid; the skin was brushed off and different parts were examined. Hindus have described the anatomy of the uterus and the tubes. They spoke of barrenness due to injury of the tubes. A long list of instruments has been described, including forceps, pincers, tube-like catheters, bougies and the rectal speculum. The actual cautery, enemas, suppositories and pessaries are also mentioned.

Twenty-four diseases of women were given descriptive terms. Treatment of these diseases varied according to the "humor" diseased. Thus, when air was considered diseased, warm fomentations or poultices were applied and steam baths prescribed. A piece of cloth soaked in oil was to be kept in the vagina. If an odor arose, a decoction of astringent barks was introduced. For menorrhagia, applications of cold or astringent medicines were advised, venery avoided, and a diet of cool simple foods required. Stone in the bladder required a suprapubic operation performed by the husband, since it was considered dangerous and he was held blameless. A trocar was used for ascites. Bladders of pigs or buffalos were employed for injecting fluids into the bowel, vagina and bladder. Injection pipes consisted of gold, silver, copper, iron, hard wood and ivory.

Theoretically, Greek medicine was derived either from India and Egypt or came on as offspring of the Grecian mind. The oldest documents are found under the general title "The Works of Hippocrates" (430 B.C.). Earlier works may have been destroyed along with the Alexandrian library by the Caliph Omar (642 A.D.). Four books of this collection are devoted to the diseases of women. Ancient Greeks were acquainted with the shape of the uterus. They thought it acted in such a way as to suck and draw juices from various parts of the body. The drinking of unwholesome water caused dropsy of the uterus, and as they possibly observed a hydatid mole, it was interpreted as dropsy. Pessaries and suppositories were used in the treatment of puerperal fever and septic abortion, often with a fatal outcome. To stop menses, cupping was applied to the breasts.

In the Hippocratic Oath, this sentence occurs: "I will not give to any woman a pessary to produce abortion." Although Hippocrates traveled widely, had a broad knowledge of the medicine of his time and was a keen observer, he contributed little to gynecology.

Progress was evident when the Greeks described the vaginal examination, which was performed after fumigation and a bath. The midwife or the practitioner introduced her finger, straightening and correcting the orifice of the uterus. Neither bimanual nor rectal examination is described. For prolapse of the uterus there was succussion, with the patient on a ladder-like framework in the inverted position. Hematometra and pyometra are accurately described.

The Greeks also used fomentations (cataplasm of honey and linseed meal), pessaries, tampons, fumigations, sounds and catheters. A mechanical pessary consisted of a pomegranate split into two halves.

Hippocrates died in 357 B.C. About this time Greece began to decline in prosperity. In the 2300 years that have passed, no one has ever successfully challenged the Hippocratic teaching that (1) there is no authority except fact: (2) facts are obtained only by accurate observation, and (3) deductions are to be made only from facts.

The Alexandrian school of medicine bridged the gap from the decline of Greece to the maturity of Rome, when Roman medicine began to develop (about 200 B.C.) under the tutelage of Greek physi-

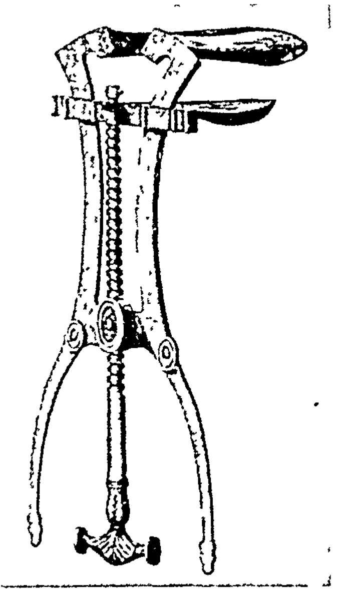

Fig. 2.—Three-bladed speculum (circa 60 A.D.).

cians. After the victories of Pompey, Caesar and Augustus, Rome settled down to a period of peace, luxury and vice. Pelvic inflammation became common, owing to venereal diseases. Prostitutes were compelled by law to dye their hair yellow or blue.

The encyclopedists in the early years of the Christian era collected and recorded all that was known in literature and science. Celsus (53 B.C. to 7 A.D.) wrote a work called "De Medicina," in which are a few chapters and references to gynecology. Many of the remedies used by the Greeks for diseases of the generative tract are described therein. Celsus differentiated between congenital and acquired vaginal atresias and emphasized the importance of a transverse incision in order to avoid injury to the urethra.

Pliny (23 A.D. to 79 A.D.) wrote an extensive work entitled "Materia Medica." He described the practice of persons who had recovered from a disease, outlining in the temples of that god the remedies to which they owed their restoration to health, so that others might derive benefit therefrom under similar circumstances. Tablets were suspended on walls, and accompanying them were frequently suspended casts of the part, moulded in terra cotta, or small models of gold or silver. Uteri were gifts to the gods, for the purpose of insuring an easy labor, or as a thanksgiving following safe delivery, or after recovery from difficult labor or disease. Small cakes in the form of the male and female organs of generation were sold by the baker girls for sacrifice to Venus and Priapus.

Rufus Ephesius described calculi in the female bladder, while Pliny was the first to describe the fallopian tubes.

Soranus (98-138 A.D.) was an outstanding specialist in gynecology, superior to his predecessors because of his methodical study of various subjects and because of his original and judicious thinking. In describing a disease, he gave a historical introduction encompassing the views of his predecessors, the causes of the trouble and the prominent symptoms. His work is justly considered one of the three most important gynecologic treatises written prior to the present century, the other two being the Pseudo-Hippocratic Treatise and the work of Aetius.

In his opening chapter, Soranus deals with the special qualities that a midwife should possess and, among other points, lays down the rule that her nails should be trimmed and rounded so that they will not wound the organs. He wisely remarks that the midwife should be discreet, since she is often trusted with family secrets.

Although he was aware of the structure of the female genital organs and gave a fairly accurate description, he considered anatomic knowledge of little importance. He knew that the uterus was not essential to life, for he says that not only does it fall down, but in some women it may be cut away without causing death, and that Galatia pigs fatten after the uterus is removed.

Soranus discussed inspection, palpation and percussion, and differentiated a fibromyoma from dropsy by means of physical examination.

Since women were accustomed to examine themselves, the following contraceptive advice was given: to prevent conception, women before coitus should smear the cervix with rancid oil, with honey, or with a decoction of cedar oil; or she should push into the os a thin strip of lint; or introduce into the vagina an astringent pessary.

Therapeutic agents and instruments used in examinations and during operations were many in number. Soranus' description of acute metritis was excellent and accurate. His extensive writings included those of many other writers; thus, in considering treatment of prolapse of the uterus, he did not approve of the treatment adopted by Euryphan, who suspended the patient head downwards on a ladder for a day and a night, keeping her recumbent after this and giving her cold ptisan tea. The reasons for his disapproval were that suspension was intolerable to the patient, while drinking tea caused flatulence. He also objected to Evenor's method of placing beef in the vagina, because putrefaction would bring on ulceration. Diocles replaced the womb by forcing air into it via a blacksmith's bellows. He then introduced into the vagina a pomegranate that had been peeled and soaked in vinegar. Irritation of the parts by a bag of hair to cause contraction was described, as well as fumigation. The treatment advised by Soranus was as follows: the bowels and bladder were to be emptied by an enema and catheter respectively, since retention of feces and urine was common in those cases, because the displaced organ pressed on these parts and so narrowed the outlets. After this preliminary treatment the patient was placed on her back, the pelvis elevated, the thighs flexed and separated. The prolapsed parts were then well smeared with hot oil, and a plug of wool the size of the vaginal canal was made ready by tying a piece of thread around it, after which it was dipped in some medical substance, such as posca or a warm decoction of myrtle or mastich; then the whole of the prolapsed parts, by gentle pressure, were borne upward until the uterus regained its normal position, and the whole of the plug was introduced into the vagina. A pad of wool soaked in astringent wine was applied to the vulva, the abdomen was covered with sponges or wool soaked in vinegar, while bandages encircled the hypogastrium, pubes and loins, the thighs being crossed one over the other. On the third day, the plug of wool being still retained in the vagina, the patient was given a sitz-bath of warm, dark, astringent wine, after which she was again placed on her back, the buttocks raised, and the plug was carefully removed from the vagina and replaced by another; a cataplasm was then placed on the hypogastric region. Three days later the bath was resumed and the plug removed. The treatment was continued until the patient was improved.

If the uterus remained prolapsed and was very inflamed and painful, it was considered better to irrigate it or to apply linseed meal poultices; then, after this preliminary treatment, to proceed as directed above. In obstinate cases local applications were to be employed constantly, and the general health attended to. If parts of the uterus or the whole of it became black, the womb having remained prolapsed for a considerable time, it was deemed advisable that it be resected partially or entirely. This procedure was possible, he said, because the lobe of a liver or of a lung which was gangrenous, after prolapse of these organs, had been resected.

Soranus followed the methodical thinking of Hippocrates and added his own careful observations and deductions.

In looking back over the progress of medical science and reviewing the growth of the specialties, including gynecology, among the Roman people at the end of the first century A.D., it is clear that it was in essence transplanted Greek medicine, whose influence was felt for the next six centuries. Although specialization had been common in Egypt for centuries, it now developed afresh, because Roman doctors found that they were unable or perhaps unwilling to acquire a comprehensive grasp of every branch of medicine. While gynecology was practiced by physicians, midwives also attended the simple diseases peculiar to women.

From the surgeons of the Alexandrian schools came the first real impulse to engage in operative surgery. They had every opportunity to study anatomy and to familiarize themselves with the positions of the organs of the body as a result of their interest in vivisection. When the ligature was introduced for the purpose of controlling hemorrhage due to severed vessels, the first real advance in surgery was made. Celsus was one of the first writers to allude to the ligature, but he did not mention its composition. Later, Heliodorus and Galen described torsion of the small vessels, after having seized them with a hook. The acme of the ligature's fame was reached when Antyllus (350 A.D.) employed it in his well-known operation for aneurysm.

Various surgical procedures were now carried out, similar progress taking place in gynecology. Specialists operated on the female genital organs, removed small growths from the cervix, sometimes attempted hysterectomy, and performed plastic operations in cases of atresia and other conditions. The vaginal speculum was in use before the year 79 A.D., at which time Herculaneum and Pompeii were destroyed; it was in the ruins of these cities that a three-bladed speculum was discovered early in this century (Fig. 2).

In obstetric cases, when the need arose, the child was removed by embryotomy; cesarean section was occasionally practiced. Many instruments then in use included needles and forceps of various shapes and kinds, catheters, cupping instruments, sharp and blunt hooks, cauteries, knives, lancets, bistouries and rectal and vaginal speculums (Fig. 3).

Claudius Galenus, one of the greatest of the ancient contributors to medicine, was born in Pergamus, in Mysia (130 A.D.). Although he wrote at least four hundred distinct treatises dealing with every branch of medicine, he had no systematic treatise on gynecology. His scattered remarks concerning the diseases of women were found so lacking in detail that they were of no value. He was the first, however, to point out clearly that the fallopian tubes were pervious and that they conveyed the ova to the uterus. These points were entirely missed by Soranus and other ancient writers.

After Galen's death (200 A.D.) an abrupt decline occurred, so that the works of the next thousand years are but shadows of those written by Galen and his predecessors.

With the fall of the Roman state the further progress of medicine was recorded in Byzantium, where science and learning were destined to lead a sickly existence for a thousand years. Constantine made Byzantium the capital of the empire (328 A.D.) after capturing Rome in 312 A.D. and defeating his rival Licinus in 323 A.D. Thus it was that medicine returned to its source, Greece.

Another influence on medical progress now developed. Christianity gradually grew in importance so that the rich and the powerful were converted to its tenets;

even Constantine, the autocrat of the empire, became a Christian. As the church believed in the preternatural, it was antagonistic to medicine in all its branches. It replaced medicine by a system of faith-healing, in which miracles, prayers, charms and amulets played a dominant role. Anatomy suffered most, since dissection was not permitted, either of animals or of human bodies. The redeeming feature of the Christian influence was the establishment of hospitals, which were supported by contributions from charitable people.

Fabiola founded the first Christian infirmary at Rome, at the close of the fourth century; St. Basil established a large charity at Caesarea, while at Edessa, Bishop Rabboula built a hospital for the exclusive use of women.

Aetius, who lived during the middle of the sixth century and was chief officer in attendance on the Emperor, probably Justinian I (527 to 565 A.D.), was the first writer to mention such Eastern drugs as cloves and camphor; he was also the first important Christian Greek medical author to leave us examples of the spells and charms in use in his day.

As to the various positions of the patient for examination or treatment, the lithotomy position is described, as well as the knee-elbow and the lateral position.

Various therapeutic agents alluded to by Aetius had already been described by other authors and therefore need not be repeated. The mechanical pessary had not yet been mentioned. Aetius, however, was the first to mention the use of sponge tents for the purpose of dilating the cervix.

Carcinoma of the uterus is described clinically, but no operative procedures are mentioned. Remedies were given to alleviate pain and stop hemorrhage.

Inflammation of the uterus is discussed in detail by Philumenus. In addition to rest, massage, fomentations to the feet and hands, bleeding, pessaries and vaginal injections were practiced.

Aetius presented Aspasia's views in describing displacement of the uterus. Although he advanced some highly imaginative ideas as factors producing lateroversion, such as the liver on the right and the spleen on the left, the results of displacement are well described. Prolapse of the uterus is discussed, and his views on hysterectomy are interesting. He reported that when the whole uterus was putrid, it was sometimes removed, the women nevertheless continuing to live.

Fibromyoma of the uterus was called a mole because sufferers from the affection moved slowly and with difficulty. Polyps of the uterus are described under the heading "decauda," because the fleshy body springs from the mouth of the womb, filling the woman's vagina and even projecting beyond the vulva like a tail.

Despite the fact that Aetius was primarily a compiler, his writings gave an insight into the works of the men of his time as well as those of predecessors, the originals of which have not yet been found.

Paulus Aegineta, of whose life little is known, lived in the sixth century A.D. His writings are compilations of a learned physician, a skillful surgeon and a man well versed in gynecology. He drew his materials from all available sources, particularly from Galen, Oribasius, Aetius and Alexander Trallianus, and seldom acknowledged the authorities from whom he derived his information. Paulus appears to be the first professional male midwife. He described three different kinds of pessaries, the emollient, the astringent and the anastomotive. They were applied to the womb. The emollient was prepared from Tuscan wax, the oil of privet and of lilies, the fat of geese and of fowls, unsalted butter, burnt resin, stags' marrow and fenugreek, and were used in inflammations and ulcerations of the womb.

Paulus gave an extensive exposition on the closure of abdominal wounds, as to the method employed, suture material used and aftercare.

With the death of Paulus Aegineta, the last of the eminent Greek authors on medicine passed away. Although Constantinople was not conquered by the Turks until 1453, there was nevertheless no medical writer worthy of mention connected with this city after Paulus' death, except perhaps Actuarius, who served as court physician (1000 A.D.) but in whose works are few references to the diseases of women.

In 1646 A.D. Alexandria was captured by Amrou during the Caliphate of Omar II, who expelled the professors from their seats of learning, pillaged the city and burned the great library of 700,000 volumes. Some of the medical books must have been rescued, however, for it was from these remnants that the Arabians copied their knowledge. They contributed nothing new, for they had very limited experience in gynecology. Religious laws forbade a man to examine the genital organs of a woman; consequently, gynecology and obstetrics were left to women, who performed not only minor operations but embryotomy and lithotomy.

Many volumes were conveyed to Greece and Italy, and these were translated into Latin, thereby forming a valuable foundation for the revival of learning during the fifteenth century. Actually, the contributions to gynecology by the ancients ceased with the death of Paulus Aegineta. Medicine was buried during the Dark Ages, and it was not until about the fifteenth century that its resurrection occurred.

Neither gynecology nor obstetrics prospered in the hands of the Arabs, because they had a profound aversion for these specialties and held a mistaken sense of values and prudery. The bulk of Arabic gynecology came from Galen, Aetius, Oribasis and Paul. The work of the two specialties in fact was carried out by midwives. Albucasis (1013-1106), considered the greatest surgeon of the Mohammedan Renaissance, made it quite clear that, whenever possible, gynecologic operations were to be performed only by midwives or female attendants possessing a medical knowledge. Most women, he stated, are unwilling to expose themselves to a male physician and, moreover, the idea was also repugnant to their husbands. If, however, female attendants were not available, the help of a physician was permissible provided he was well mannered and had a working knowledge of the diseases of women. The cautery was used more often than the knife because bleeding was better controlled. The treatment of prolapse of the uterus was unique: Let the woman lie on her back, have someone sit on her chest; then terrify the patient by placing small lizards or frogs at her feet. As she tries to avoid them, she will withdraw her extremities. This action on her part was so intense that the prolapsed uterus was drawn into place. Averraes, the last of the great Arabic physicians, reported a strange case of noncoitional impregnation. "There was a certain neighbor of mine who stated on oath—and whom I have no reason to doubt—that she became pregnant while taking a bath in the same warm water in which bad men had previously had orgasms."

During the final stages of Arabic Medicine there developed an independent medical school at Salerno in southern Italy, whose physicians adhered to Greek concepts of medicine. Constantine, one of the leaders at Salerno, covered the entire field of clinical gynecology in twelve pages. He mentioned that hermaphrodites do not menstruate. It would be repetitious to describe their manner of gynecologic practice. From England, however, came an initial inkling of organotherapy, when St. Hildegarde (1099-1179), the Abbess of Rupertsberg, suggested that sterile women be advised to eat the uturi of fully developed virgin cows and sheep. Trotula, a female physician, wrote a 36-page pamphlet on women's diseases which was a conglomeration of many conditions and very little gynecology. The word "flowers" to designate the menstrual period was used for the first time.

The thirteenth century contributed little to gynecology. The following century and a half witnessed the early establishment of hospitals, as well as the revival of human dissection at Bologna and Padua; then, later, pathology. The first human dissection in Europe for purely anatomic purposes was performed by Mandino at Bologna in 1315, after a lapse of fifteen hundred years when the last anatomic demonstrations on the human cadaver were conducted at the Alexandrian School of Medicine. Mandino corrected the errors which were repeated in the gynecologic literature from the days of Hippocrates on by showing that the normal nonpregnant uterus did not extend to the umbilicus, and that the uterus, being a partially fixed organ, did not wander to the region of the diaphragm in cases of "uterine suffocation." The gynecology of this period, the few aforementioned exceptions aside, remained unchanged and without innovations. At this time surgeons appeared somewhat more daring, and an isolated postmortem cesarean case, extirpation of a prolapsed uterus and an abdominal incision at the umbilical area for the removal of fetal bones in abdominal pregnancy were reported. The terms *perineum, cervix* and *procidentia* were also introduced.

G. Berengario da Carpi, a distinguished physician of the sixteenth century, relates how his father, also a physician, removed a prolapsed gangrenous uterus by means of a scalpel (rasario). His own technic for vaginal hysterectomy consisted in ligating the prolapsed organ with strong twine and tightening the suture until the organ was severed; the parts were then bathed with a solution of wine previously boiled with honey and aloes. The postoperative febrile reaction lasted two days.

Andreas Vesalius (1514-1564) revolutionized anatomy and accurately described the entire genital tract. He was the first to use the word "uterus" instead of "matrix" and the first to describe decidua and to use the word "pelvis," but he continued to call the ovaries "testicles." His distinguished pupils included Gabriels Fallopic (1523-1562), whose name is connected with the fallopian tubes, because he so clearly described them and because he was the first to call them *uteri tubae.* They had been previously mentioned by Rufus and Soranus and adequately described by Vesalius. Colombo, also a student of Vesalius, first used the term "labia" and considered it essential to protect the uterus from dust, cold and air. The word "vagina" was first used by him, and he was also the first to record a case of congenital absence of the vagina and uterus.

Ambrose Paré (1509-1590) contributed a monograph to the Israel Spach's Gynaecia, a massive volume of more than a thousand pages. Paré was the first to bisect and examine a fibroid uterus removed at autopsy; he also established the differential diagnosis of fibroids and pregnancy. He was highly ingenious in his gynecologic therapy and was the first to use oval pessaries of hammered brass and pessaries made of waxed cork for prolapsed uterus.

Jean Fernel of Omiens (1497-1558) was the first to use the term "gonorrhea" and to demonstrate a penile or vaginal discharge of venereal origin. He was a great observer and had full clinical knowledge of pelvic inflammatory disease.

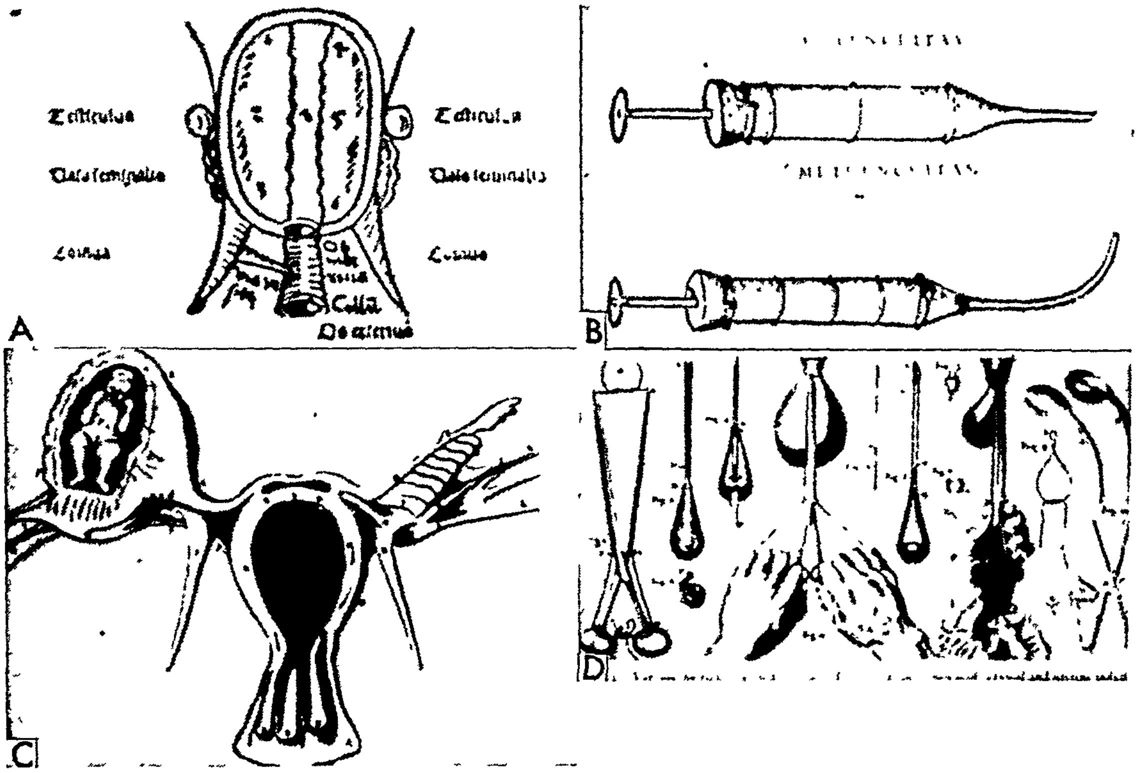

Fig. 3.—*A*, drawing of uterus (1501). *B*, syringes used for irrigation (1600). *C*, first recorded ectopic pregnancy (Regner de Graaf, 1679). *D*, instruments for removal of vaginal and uterine polps (1771). *E* (*below*), belt for ovarian cyst (1646).

G. Andrea Della Croce, a Venetian physician of the sixteenth century, used vaginal irrigation for uterine perforation and advised against surgery. He described the removal of a "scirrhus" of the uterus that became gangrenous and stated that the woman lived. The operation in this case is considered the first hysterectomy for carcinoma.

During this period of progressive anatomy, Regner de Graaf (1641-1673) presented an excellent description of the ovary, the corpus luteum and the lymphatic system of the uterus. Mauriceau, Cyprianus and others began reporting instances of ectopic pregnancy of various duration, observed at postmortem examination. Occasionally, the fetus was removed by enlarging an abdominal fistula that developed after its death. There were, however, too many tragic endings. Similar results followed surgical attempts to remove prolapsed uteri.

Another major contribution of the times was exposure of the mistaken notions dealing with hysteria and hysterical suffocation.

Rhazes and several other Arabian clinicians challenged these misconceptions, and it was Charles Lepois, Thomas Willis and Hendrik van Roonbuyze who established the fact that the symptoms of hysteria could occur in either male or female and that the attack began in the central nervous system.

The eighteenth century was characterized by the growth of rationalism and religious skepticism. There was emphasis on such fundamental subjects as pathology, embryology, histology and experimental physiology, and many independent clinical entities were discovered. Particular interest attaches to Jean Astruc (1684-1766), who published six volumes on gynecology and an important treatise on tumors. So much was happening during this period that it is difficult to narrow one's sights to a single specific field. Obstetrics was vastly improved, and medical men, rather than midwives, assumed the leading roles. Astruc was the first to refer to bimanual examination, stressing the value of the vaginal speculum. His was the best account of an initial attack of gonorrhea in the female, and he was first to mention an incubation period. His observations on pelvic infections are quite accurate, although his interpretation of their etiologic factors may not be acceptable. John Hunter and Benjamin also wrote on gonorrhea. Carcinoma of the cervix was recognized; it was called a condition of lymphatic origin and incurable.

Everard Home, brother-in-law of John Hunter, reported in 1799 that Hunter performed the first artificial inseminations in women.

William Hunter offered the first clear exposition on retrodisplacement of the uterus. Others added further details and treatment, much of it quite practical.

After the report of the first cystocele by Jean Metry (1645-1752), in the eighteenth century, there were many others, as well as dissertations and graduation theses. Metry also mentioned perineal and other vaginal hernias.

The first gynecologic operations performed on the American continent were for extrauterine (abdominal) pregnancy. John Bard (1716-1780), a New York surgeon, in a letter to John Fothergill of London, said that he had operated on a Mrs. Stagg, age twenty-eight, for the removal of an intra-abdominal fetus. The patient recovered. This letter was written on Dec. 25, 1759, and was read before the London Society of Physicians on March 24, 1760. As usual, others made attempts to duplicate the procedure, with and without success.

Up to this time ovarian cysts had been considered incurable. Now, tapping of the cysts began in earnest and was repeated almost *ad infinitum*, even up to one hundred fifty-five times. But no one ventured to remove the cysts, and they were observed only at autopsy. Soon after, there was emphasis on incision and drainage.

The first extirpation of normal ovaries when they were present in a hernial sac was performed in 1756 by Percival Pott, a famous surgeon of St. Bartholomew's Hospital.

The first operation recorded for the evacuation of a tubo-ovarian abscess was performed by L'Aumanier of Rouen in 1776. Henricus Callisen opened an adnexal pus sac *per vaginam*, and this was repeated by Macaru in 1788.

Vesicovaginal and rectovaginal fistula received considerable attention, mainly because they were so common, with only occasional treatment attempted. The use of indwelling catheters and the insertion of innumerable pessaries of gold, silver,

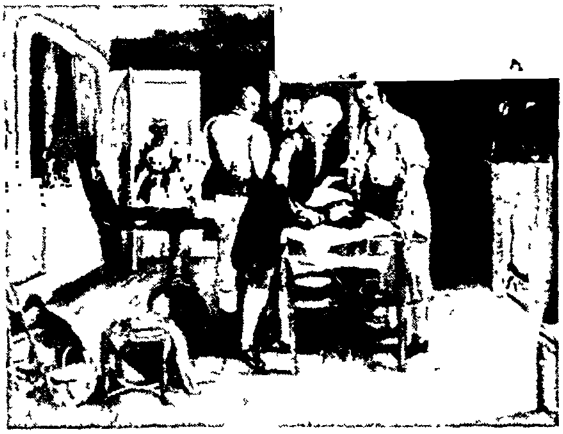

Fig. 4.—First oophorectomy, performed by Ephraim McDowell in 1809.

wax and wood to fill the vagina and close the aperture were ineffectual.

Thus, the eighteenth century closed on a note of progress. It has been said that an alumnus of the medical school of Cos, who learned his gynecology from Hippocrates, would have little difficulty in understanding the course of lectures on diseases of women delivered by Jean Astruc at the University of Paris, though more than two thousand years separated the lives of the two.

Early in the nineteenth century gynecology was still essentially medical in its scope and perspective, and the literature was chiefly concerned with clinical and speculative observations. The second half of the century, with the introduction of embryology, histology, cellular pathology, bacteriology, anesthesia, antiseptics and aseptic surgery, made such gigantic strides that more was accomplished in solving gynecologic problems during this period than during the preceding two thousand years.

In 1817, Christian Heinrich Ponder described the formation of the three primary layers of the blastoderm for the first time. He also described the metamorphosis by which these layers are transformed into the various organs and systems. Karl Ernst von Baer, in 1827, discovered the mammalian ovum and found the human ovum in a Graafian follicle. These discoveries led to additional investigations and finally to observations on the process of fertilization. The first textbook devoted to pathologic anatomy (nonmicroscopic) of the female sexual organs was written by Julius M. Klob, an English translation of which appeared in 1868. Rudolf Virchow (1821-1902) began publication of his *Handbuch* in 1854.

Away from the scientific laboratory, a clinician occasionally makes a contribution that initiates important trends. In the absence of anesthesia, without knowledge of antisepsis and without trained assistants, Ephraim McDowell, in December 1809, successfully performed the first oophorectomy. This dramatic episode warrants a reading of McDowell's comments:

"In December, 1809, I was called to see a Mrs. Crawford, who had for several months thought herself pregnant. She was affected with pains similar to labor pains, from which she could find no relief. So strong was the presumption of her being in the last stage of pregnancy that two physicians, who were consulted on her case, requested my aid in delivering her. The abdomen was considerably enlarged, and had the appearance of pregnancy, though the inclination of the tumor was to one side, admitting of an easy removal to the other. Upon examination *per vaginam* I found nothing in the uterus, which induced the conclusion that it must be an enlarged ovarium. Having never seen so large a substance extracted nor heard of an attempt or success attending any operation such as this required, I gave to the unhappy woman information of her dangerous situation. She appeared willing to undergo an experiment, which I promised to perform if she would come to Danville (the town where I live), a distance of sixty miles from her place of residence. This appeared almost impracticable by any, even the most favorable conveyance, though she performed the journey in a few days on horseback. With the assistance of my nephew and colleague, James McDowell, M.D., I commenced the operation, which was concluded as follows: Having placed her on a table of the ordinary height, on her back, and removed all her dressing which might in any way impede the operation, I made an incision about three inches from the musculus rectus abdominis on the left side, continuing the same nine inches in length, parallel with the fibres of the above-named muscle, extending into the cavity of the abdomen, the parietes of which were a good deal contused, which we ascribed to the resting of the tumor on the horn of the saddle during the journey. The tumor then appeared full in view, but was so large that we could not take it away entire. We put a strong ligature around the Fallopian tube near the uterus, and then cut open the tumor, very much enlarged. We took out fifteen pounds of a dirty, gelatinous-looking substance, after which we cut through the Fallopian tube and extracted the sac, which weighed seven pounds and one half. As soon as the external opening was made, the intestines rushed out upon the table; and so completely was the abdomen filled by the tumor, that they could not be replaced during the operation, which was terminated in about twenty-five minutes. We then turned her upon her left side so as to permit the blood to escape, after which we closed the external opening with the interrupted suture, leaving out the lower end of the incision, the ligature which surrounded the Fallopian tube. Between every two stitches, we put a strip of adhesive plaster, which, by keeping the parts in contact, hastened the healing of the incision. We then applied the usual dressings, put her to bed, and prescribed a strict observance of the antiphlogistic regimen. In five days I visited her and, much to my astonishment, found her engaged in making up her bed. I gave her particular caution for the future, and in twenty-five days, she returned home as she came, in good health which she continues to enjoy."

Mrs. Crawford lived to a good old age. There follows a long list of similar operations, and it would be repetitious to mention them all. But this initial, successful, planned procedure eliminated the former tappings and partial excisions and formed the basis for gynecologic surgery.

In 1823, James Blundell, truly a great pioneer in abdominal surgery and animal experimentation, made the following significant recommendations: excision of portions of the tubes for sterility, or removal of a portion of the cyst wall when extirpation was impossible; removal of the carcinomatous womb when ulcerations first made their appearance; extirpation of a ruptured uterus, and repair of a ruptured bladder. He was also one of the few gynecologists to do vaginal hysterectomy.

Spectacular aid to surgical procedures came in 1846, with the dawn of anesthesia. In 1842 Crawford W. Long (1815-1878) of Jefferson, Georgia, first administered ethyl for the removal of a small tumor of the neck, and in 1844 Horace Wells, a dentist of New Haven, Connecticut, first gave nitrous oxide for the extraction of a tooth. Oliver Wendell Holmes, who was a physician on the Harvard staff, coined the words "anesthesia" and "anesthetic." J. Y. Simpson, on Nov. 4, 1847, on the advice of a druggist, used chloroform in surgery and later in obstetrics, and also for the relief of dysmenorrhea.

In 1866 Joseph Lister introduced surgical antisepsis when he used a carbolic acid spray and solution. Antisepsis in obstetric practice was introduced earlier (1844), by Ignaz Semmelweis (1818-1865), who reduced the mortality rate of puerperal sepsis from 11 to 1 per cent by having obstetricians wash their hands in a chemical solution before examining or attending a woman in labor. Further innovations followed Lister's work. These included the introduction of extreme cleanliness or asepsis by R. Lawson Tait, steam sterilization of dressings by Ernst von Bergman of Berlin, and rubber gloves by William Stewart Halsted of New York. Of course, Louis Pasteur (1877) and Robert Koch (1878) established a bacteriologic basis for these procedures in order to prevent the introduction of bacteria into operative fields.

As early as 1801 Joseph Claude Anselme Recamier (1774-1852), who was considered the founder of the specialty of gynecology, described the use of the vaginal speculum for treating the exposed parts of the cervix and vagina. His first speculum consisted of a slender tin tube, five inches long; in time, he had to enlarge its diameter. Modifications quickly followed, so that during the present century about four hundred variations have been introduced, being either tubular or volvular.

Recamier, dissatisfied with the exposure of the cervix, introduced the uterine sound and curette to explore the uterine cavity. Although these instruments were great diagnostic aids, they were not generally accepted for some time. Today they are our most commonly used diagnostic instruments. That progressive ideas and procedures often meet with opposition is made evident by the following note: Charles D. Meigs, professor of midwifery and diseases of women and children at Jefferson Medical College, declared in 1848: "We are, in many instances, not permitted to institute the only inquiries that would possibly reveal to us the precise nature and indications of the case. Even after we have been consulted, and when certain concessions are made, there often remains some degree of uncertainty, because we cannot, as we can in persons of our own sex, freely employ every means of research in exploring, and in repeating the explorations of their maladies.

"This difficulty is probably greater in this country than it is in Europe, I am rejoiced at it; because, however inconvenient and however baffling is the particular instance of suffering, it is an evidence of a high and worthy grade of moral feeling. And I hope the day is far distant when the spectacle shall be seen in our hospitals, of troops of women waiting in succession for a public examination of their genitalia, in the presence of large classes of medical practitioners and students of medicine. I regard this public sentiment as to the sanctity of the female modesty and chastity, as one of the strong safeguards of our spontaneous public probity; for woman, and man's respect and love for her are truly at the basis, and are the very cornerstone of civilization and order.

"He is but pander of vice who parades his thousands of uterine cases before the public gaze; and is himself an unchaste man, who ruthlessly insists upon a vaginal taxis in all cases of women's diseases that, however remotely, may seem to have any, the least connection with disorder of their reproductive tissue.

"While I say these things to you, my young friends, I am bound also to say that it will be your painful, even your distressing duty to condescend to the task of making such explorations sometimes."

Even during the late seventies, Howard A. Kelly, while a student at the University of Pennsylvania Hospital Dispensary, was advised by William Goodell to look at the ceiling while making a vaginal examination in order not to embarrass the patient, who was carefully and thoroughly draped.

By 1870, with the aid of the microscope, the classification of cervical malignant tumor had almost reached the one in current use. Differentiation between cervical and fundal carcinoma was established.

Charles West of London presented the first report on this subject, stating that, out of one hundred and twenty cases of uterine malignancy, there were fundal growths in two. By 1870, however, no one had either suggested or attempted operative measures. In 1880, T. Gaillard Thomas proposed ablation.

The first text devoted to the sugical treatment of gynecologic diseases appeared in 1854 and was written by Isaac Baker Brown of London. It was entitled "On Some Diseases of Women Admitting of Surgical Treatment." Brown divided gynecologic diseases into two main groups: (1) those resulting directly or indirectly from parturition-rupture of the perineum, prolapse of the vagina, procidentia uteri, vesicovaginal fistula, rectovaginal fistula and lacerated vagina, and (2) those independent of pregnancy-polypus uteri, stone in the bladder, vascular tumor of the meatus urinarius, imperforate hymen, encysted tumors of the labia, diseases of the rectum resulting from certain conditions of the uterus, and ovarian tumors.

Gynecology in the nineteenth century suffered from several waves of etiologic misconception, all of which had their corps of devotees. For some decades, inflammation of the uterus was regarded as the cause of all female ailments, later to be followed by displacements and deviations of the organ as the reason for all pelvic disturbances. Fortunately, there was only a brief period in which clitoridectomy was advocated as a remedial measure for female neuroses; by this same strange bypath came a phase in which normal ovaries were removed. Other misconceptions followed, including the belief that inflammation, ulcerations and lacerations of the cervix were the cause of all female aches and pains.

In 1860, German gynecology held the leadership in pathology, histology and bacteriology. German contributions were unsurpassed until the end of the nineteenth century; three valuable gynecologic journals appeared in 1870 and 1877.

From a practical point of view the gynecology of the nineteenth century was essentially American, beginning with the contributions of Ephraim McDowell (1809), James Marion Sims (1813-1883), the Atlee brothers and Thomas Addis Emmet (1828-1919), who were followed by many others.

Vesicovaginal fistula had been a problem for countless generations, but it was always considered too formidable and discouraging to be given more than sympathy or an occasional attempt at closure. From 1800 to 1850 surgeons began determined attempts to effect a cure. There were many reports and in 1852, A. J. Jolert de Lomballe published a volume of 400 pages dealing with this lesion. In this year James Marion Sims made his epochal contribution which was published in the *American Journal of Medical Science* (23: 59-82, 1852).

The course of events that stimulated Sims' interest in vesicovaginal therapy warrants a more detailed exposition. After accidentally placing a patient in the knee-chest position he retracted the perineum, allowing air to rush in and distend the vagina. This gave a view of the vagina he had never before observed. His story follows:

"If by this position, the atmospheric air can be made to dilate the vagina—why will not the same principle allow me to explore this region, and examine accurately any injury. Full of thought, I hurried home—and the patient (with vesicovaginal fistula) who was to have left the next day, was placed in the position described, with an assistant on each side to elevate and retract the nates. I cannot, nor is it needful to describe my emotions when the air rushed in and dilated the vagina to its greatest capacity, whereby its whole surface was seen at one view, for the first time by any mortal man. With this sudden flash of light, with the fistulous opening seen in its proper relations, seemingly without any appreciable process of ratiocinations, all the principles of the operation were presented to my mind as clearly as at this time. From this moment, my high resolve was taken. I thought only of relieving the loveliest of all God's creations of one of the most loathsome maladies that can possibly befall poor human nature. Full of sympathy and enthusiasm, thus all at once I found myself running headlong after the very class of sufferers that I had all my professional life most studiously avoided. Building a little hospital as a special field of experiment, I readily got control of these cases, all of them healthy young Negro women. Having no proper instruments, and no instrument-maker, dentists, jewellers and blacksmiths were laid under contribution, and soon such rude instruments were made as were suggested by the peculiar wants of individual cases. This occupied a period from the 9th of December, 1845 to the 10th of January, 1846, when the first operation was performed.

"The fistula was an inch and a quarter long, transverse, in the base of the bladder, with an abundance of tissue. Its edges were accurately adjusted, and I expected to effect at once a magical cure; but greatly to my surprise and mortification, it was a failure. However, the size of the opening was reduced from that seen in the diagram to one not larger than a No. 4 bougie; this encouraged me considerably, and the same operation was tried on another case with a like unfortunate result, and after this, with various and constantly varied modifications on others till each one had suffered numerous operations, but all to no purpose. And thus I worked on—for long weary years, before a single case was cured.

"Soon my friends began to despair of my efforts, and one by one, became tired of such profitless work—I now stood alone—alone! No—for I felt that I had a mission—of Divine origin—nor was I alone in another sense, for I had succeeded in infusing my own courage and enthusiasm into the hearts of the half dozen sufferers who looked to me for help, and implored me to repeat operations so tedious, at that time often so painful that none but a woman could have borne them.

"In my first experiments, the quilled suture was used, securing the ligatures by passing them through little cannulae that projected from the vulva. The rude contrivance was made of silver. The cannulea were firmly soldered to the proximal quill, and when the ligatures were tightened and wrapped around the end that projected from the vagina, the fistulous

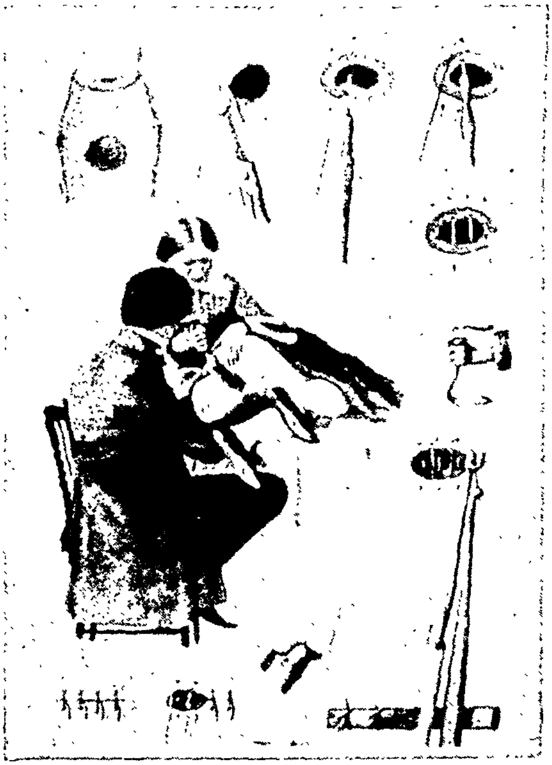

Fig. 5.—Repair of vesicovaginal fistula by J. Marion Sims.

edges were neatly coapted by the quills. After using the machine variously modified for nearly three years, giving attention mostly to the perfection of the self-retained catheter, I at last concluded that the projecting cannulae were a chief cause of failure, and consequently determined to dispense with them; but how to secure the ligatures was the question. A detail of the numberless expedients resorted to is useless; suffice it to say that I was at last driven completely to the wall. I had resolved never to repeat another operation for nearly six weeks, and my devoted patients were begging me from day to day to 'try only one more time!' Notwithstanding their importunities, I had determined first to invent a knot for my sutures. My brain was oppressed. At last, I happened to remember that, when as a boy, I used to make sinkers to my fishing lines by cutting a shot half in two, laying the line in the cut, and then compressing the shot on it with my teeth. The idea occurred to me on the night of the 14th of November, 1848. The contemplation of its beauty, simplicity, and perfect adaption to the purpose, gave me a sleepless night; for there I lay with etheralized brain, performing in imagination a magical cure on each of my devoted patients. But bright and early on the succeeding morning I applied the quill sutures secured by the perforated shot. It was all I could desire —but these bright hopes were of short duration, for I soon had unmistakable evidence that the operation was a total failure. What was the cause of it? It must be because the silver quills were too large, so I began to lessen their size—and on account of the expense of silver, lead was substituted; but notwithstanding these modifications, there was no more success than at the beginning.

"Thus far all my experiments were conducted on the principles of a rational inductive philosophy. The operation was mechanically perfect, but with no better results than when it was rude and clumsy. There must be a reason for all this—what was it? 'Why,' said I, 'perhaps it is the nature of the material more than in its principle of action; what a happy thought!' Of course it was, for a silk thread introduced under the skin and allowed to remain a week, becomes a seton, giving rise to the suppurative process, and certainly the same thing must occur with it in the vagina, and how then could there be cohesive union? Here, then, was the difficulty at last; how strange it now seemed to me that this fact had not long ago forced itself upon my mind. Now the question arose, was there a substitute for silk that would answer the same purpose, and yet not poison the animal tissues? Dr. Levert of Mobile had demonstrated the innocuousness and efficacy of leaden ligatures on the arteries in the lower animals, and Metzler and Dieffenbach had actually used leaden sutures in these very cases; and I had, in my very experiments, tried them in two cases; of vesical and one of rectal fistulae, but, unfortunately for science, the clumsy leaden wire was unsuccessful in my hands. Was there any other metal that could be substituted . . . ?

"In this train of inquiry, what would be more readily suggested to the reasoning mind than silver, gold and platinum? Just at that stage of affairs, I happened to pick up a piece of brass wire that had been used in a pair of old-fashioned suspenders made before the days of India rubber; it was as fine as ordinary sewing thread. I took it to a jeweller who imitated it in silver. I was now quite anxious to see the results of an experiment with this. On the 21st of June, 1849, it was done. A young colored woman, who had never murmured at the preceding failures, was placed on the operating table for the thirtieth time, and the silver sutures were applied, with the leaden bars and the perforated shot—and on the eighth day, the parts were perfectly healed.

"I shall not dwell upon my feelings at this time. At last, I had attained what I had worked for nearly four years; and it was but a few weeks before all cases were cured that had been the subject of experiment for so long a time. I was anxious to get a few more cases to settle some doubtful points, before publishing to the world my discovery.

"Having contracted the chronic disease of a warm climate—and fearing that I might die without the world's reaping the benefit of my labours, I determined to give my experience, crude as it was, to the profession that I loved so much. And, accordingly, in October, 1851, my paper 'On Vesico-Vaginal Fistulae' was dictated and sent to Dr. Isaac Hays, of Philadelphia, who published it in the *American Journal of Medical Science*. Rectovaginal, enterovaginal, and other varieties were now attacked with certain success."

The nature of the uterine fibroids, a common abdominal tumor, was not fully understood up to the close of the eighteenth century. It was confounded with malignant growths, of which it was regarded as a variety. Galen called the hard myoma of the uterus a scleroma. The term "mola" or "mole," which had been used for a long time, was now applied to any strange intrauterine growth. J. Vogel, in 1843, first demonstrated the microscopic resemblance between the uterine wall and tumor growth. Virchow introduced the designation "myoma," while Klob and Rokitansky suggested "fibroid tumor." Many publications appeared on the differentiation of fibroids from malignant disease of the uterus. Treatment, chiefly medical, consisted of bromine and iodine compounds administered for months and years, in combination with mineral spring waters. Other procedures were sloughing, absorption, excision, ècrasement, enucleation and, only as a last resort, gastrotomy, that is, laparotomy. Absorption was sometimes attained by systematic pressure exerted by intrauterine tents of "sponge or sea tangle." Pedunculated fibroids were removed through the cervix by cutting and "white-hot iron" cautery.

Intra-abdominal removal of a fibroid uterus was considered entirely outside the sphere of recognized surgical therapy. As late as 1865, W. H. Byford, a leading Chicago gynecologist, and T. G. Thomas of New York (1868) opposed it. Reports of unsuccessful attempts were published.

In June 1853 Walter Burnham of Lowell, Massachusetts, removed a fibroid uterus for the first time; this was mistakenly believed to be an ovarian cyst. He subsequently performed fifteen amputations for fibroid uterus; there were only three recoveries. The first unsuccessful myomectomy was performed by Augasto Bozzi of London in 1837; the first successful one was credited to Washington L. Atlee in 1844. The first Englishman who successfully performed myomectomy was John Eddison in 1854. The first panhysterectomy, carefully planned, was done by B. Bardenheur in 1881. Mary A. Dixon Jones was first to accomplish it in America in 1888.

It may be surprising to learn that a sacral approach was also used for hysterectomies in the period from 1880 to 1890. The vaginal approach for the removal of a fibroid uterus was used by V. Czerny in 1878. Other measures employed during the latter part of the nineteenth century included removal of both ovaries; electrical treatment, such as bipolar faradization and galvanism, and ligation of the tubal and ovarian vessels or the uterine vessels.

In 1812 John Clarke described a peculiar type of degeneration of the cervix, which, from its appearance, he called cauliflower excrescence. R. Virchow recognized the peculiar structure and nature of such excrescences, and Carl Meyer of Berlin, in 1851, presented the clearest description of the progress of the disease. In 1878 Ruge and Veit advised excision of tissue for biopsy and microscopic examination, while A. Martin in 1889 tried curetting a malignant ulcer of the cervix and subjecting the tissue to microscopic examination. C. H. Stratz, in 1886, advised investigation of such early symptoms as hemorrhage during or after coitus. Rudolph Chrobak must be credited with directing attention, in 1896, to the development of malignant disease in the cervical stump. Therapeutic measures varied from diet, sanguineous depletion, cupping of the lower part of the abdomen and application of leeches to the cervix to starvation to prevent nourishment of the diseased organ, purgation and vaginal irrigations. Surgical procedures began with cervical amputation by Osiander in 1801 and proceeded to galvanocautery by John Byrne in 1872, vaginal hysterectomy by C. J. M. Langebeck in 1813 and abdominal total hysterectomy by W. H. Freund in 1878. For carcinoma of the cervix, radical abdominal hysterectomy was performed by E. Ries (1895) and Wertheim (1900), and radical vaginal hysterectomy by Shauta.

Before the nineteenth century ectopic pregnancy was recognized only if a patient was studied at autopsy; the only known surviving women were those who had abdominal pregnancies, the fetuses of which had died and later extruded the fetal bones through fistulas in the abdominal wall. Invariably, all the specimens of ectopic pregnancy were seen at autopsy, and all, of course, were ruptured masses with profuse intra-abdominal hemorrhage. Bussiere of Paris (1693), J. Ollivier (d'Angers) (1834) and E. Stanley (1820) were first to observe and describe unruptured tubal gestation. Bussiere's case was that of a woman condemned to death, who had had intercourse with a fellow-prisoner while awaiting execution. At autopsy, the dilated portion of the tube contained an ovum the size of a hazelnut. Ollivier's patient died from rupture of some ovarian varices, while Stanley's patient committed suicide by taking opium five weeks after illicit intercourse.

Many etiologic theories were presented; bizarre cases were reported, but since no laparotomy was carried out the mortality rate was appalling. Procedures at the time encompassed starving of the patient, destruction of the fetus by the injection of drugs and the use of electricity and compression.

The diagnosis of unruptured tubal pregnancy then, as now, was not an easy matter, and no one dared to subject a more or less symptomless patient to the hazards of laparotomy. When rupture occurred, the patient, in most instances, was too poor a surgical risk to warrant intervention and was left to her fate. In 1883, however, R. Lawson Tait of Birmingham, England, operated successfully on a patient with a ruptured pregnancy. The first American operation for this condition was performed in October 1883 by Charles K. Briddon of New York. An immense literature has accumulated since then on the causation, clinical course, combinations, bizarre sites and vaginal and abdominal treatment of ectopic pregnancy. In 1891 Schauta demonstrated that prompt operation in cases of ectopic pregnancy had reduced the mortality rate from 86.9 to 5.7 per cent.

Progress was also made in the treatment of prolapse of the uterus, which has been a problem since ancient times. After the postanesthesia and post-Lister period, pessaries and appliances were replaced by surgical procedures. Surgical treatment was not always anatomic or physiologic and varied from partial to total closure of the vagina, ventrofixation, ventrosuspension, cervical amputation and vaginal hysterectomy.

Concepts of pelvic inflammatory disease held during the first half of the nineteenth century did not differ from beliefs emanating from ancient times. An inflamed pelvis really meant an inflamed uterus, and inflamed adnexae discovered at autopsy were considered purely a secondary manifestation. In the absence of autopsies, the most obvious pelvic inflammatory lesion was a pelvic abscess or a tubo-ovarian abscess that pointed either *per vaginam* or above Poupart's ligament. The earliest descriptions appeared in the texts of Aetius of Amida (502-575) and Paul of Aegina (625-690) and were followed in 1655 by James Primrose. In 1759 Nicholas Puzos, although he appreciated the clinical picture, erroneously considered this ailment due to a superabundance of milk in the system. John Hunter alluded to the condition in 1775 but did not consider it a disposition of milk.

Up to 1840 the causes commonly believed to produce inflammation of the adnexae, independent of the puerperal state, were: (1) a blow or a fall, a wound and contusion in the iliac region; (2) excessive excitement; (3) "sudden refrigeration of the body"; (4) suppression of the menses, or painful and imperfect menstruation; (5) the abuse of emmenagogues; (6) the use of substances designed to produce abortions, and (7) the use of exciting drugs known as aphrodisiacs.

The first real advance came from autopsy studies conducted by Bernutz and Gaupil in 1857. They stated that inflammation of the pelvic peritoneum was a common disease, that the tumor found was formed by the matting together of various pelvic structures as a consequence of inflammation, and that inflammation of the pelvic-serous membrane was always symptomatic of inflamed tubes and ovaries. Disregarding Bernutz' work, the gynecologists talked only of cellulitis and peritonitis. Bernutz' treatment, however, was comparable to our modern methods.

The surgical treatment of purulent diseases of the adnexae centered about colpotomy during the first half of the nineteenth century. Then, late in 1870, laparotomies and removal of the tubes were championed by Joseph Price of Philadelphia. The first removal of tuberculous tubes was undertaken by F. von Mondach and A. Hegar independently in 1883. Lawson Tait removed a hematosalpinx in 1876 and a pyosalpinx and a hydrosalpinx in 1879. Dire consequences, however, followed the invasion of a septic pelvis by laparotomy, despite antisepsis and asepsis. The vaginal route and inguinal incision were introduced. A group of conservative gynecologists (T. Spencer Wells, C. Schroeder, A. Martin, F. Schatz and others) showed that they were able to preserve the child-bearing function by conservative surgical measures. It was only during the early part of the twentieth century that the realization arose that the proper time for invasion of an infected pelvis was an important factor in saving lives and preserving partial or complete generative function. With the introduction of chemotherapy and the antibiotics further control was established; nonetheless, abscesses still require drainage.

With the end of the nineteenth and the beginning of the twentieth century, the importance of physiologic research has come into its own; it has contributed much to our understanding of the endocrine system and the interrelations of the pituitary, thyroid, adrenal and ovarian glands. The corpus luteum function was described by Prenant in 1898 and Fraenkel in 1903. In 1906, Lane-Claypon and Starling established the ovary-breast relation in animals. In 1908, Hitschmann and Adler described the endometrial menstrual cycle histologically and related it to the ovarian cycle. Later came isolation of the ovarian hormones, estrogen (E. Allen and Dorsey, 1924); progesterone (Corner and W. Allen, 193?), and the gonadatropic hormones of the pituitary gland (Aschheim and Zondek). The latest dramatic discovery has been the steroid hormones.

The therapeutic and diagnostic history of radium and roentgen rays began with isolation of the radium salt from uranium in 1898 by the Curies, and Wilhelm Roentgen's demonstration of roentgen rays in 1896. Since 1910 their values and limitations have been gradually established. Robert Abbe of New York introduced the use of radium in the treatment of carcinoma of the uterus.

Sampson established the true nature of endometriosis in 1922.

The progress of studies on infertility and sterility was stimulated by Rubin's tubal insufflation investigations. Hysterosalpingography and the advanced knowledge of physiology have come to the fore since 1910.

Cytologic studies by Papanicolaou and his workers since 1917 have contributed an important diagnostic method.

The development of atomic products and the use of isotopes are important aids in gynecology.

In conclusion, therefore, it may be said that the history of gynecology encompasses the history and development of anatomy, physiology, pathology, symptomatology, diagnosis and treatment of the female generative tract, and its relation and influence to the rest of the body, as well as the reciprocal action of the body on this system.

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It is of significance, of course, to know who is the father of any important discovery, but in the spirit of strict justice it is of equal interest to know who is the mother and who is the obstetrician who assisted in bringing it forth into the world.

It happens with scientific discoveries, as with literary works, that once the umbilical cord joining them with the mind of their creator is cut, they cease to belong to one person, and they take on a life of their own, ready to grow and change. The original and true features can then be appreciated only if we look at their reflection in the mirror of their creator's own mind.

How instructive it would be, for instance, if the great figures of the past in psychiatry could tell us what they think of their own discoveries re-evaluated in the light of our present-day knowledge! What a lesson in humility and tolerance it would be for many "Freudian" dogmatists if Freud himself were to give us a new estimation of his psychoanalytic theories in the light of the new biologic signposts in psychiatry!

Marti-Ibañez

Nicholas Senn, Pioneer

W. C. BORNEMEIER, M.D., F.A.C.S., F.I.C.S.

CHICAGO, ILLINOIS

ABOUT four thousand years ago the medical center of the world was located in Mesopotamia. This small country at the eastern end of the Mediterranean was also the center of civilization and the center of transportation. Through this land of the Tigris and Euphrates, all eastbound traffic of the Mediterranean and northbound traffic from Egypt found its way. It was natural, then, that this little country became the clearing-house for everything new, and it was here that among merchants, priests, craftsmen and scribes the modern physician was born.

Strange as it may seem, it was almost four thousand years before the next true advances were made in medicine. Again it was men of great wisdom and courage, working in an area located at the crossroads of a great nation, who shook off the beliefs, the rituals and the magic that represented medical care in that era.

Dr. Nicholas Senn

Chicago in the nineteenth century, as it is today, was the transportation and communication center of the United States. Most of the national culture and knowledge, as it gradually moved from east to west, passed through this city. What more natural spot could be found to filter out the ritual and ignorance? This was the place to substitute wisdom, science and research. It was here that sensible pronouncements were permitted to stand; problems were thrashed out; and the chaff was thrown to the winds. This area, like Mesopotamia forty centuries earlier, sits astride the routes of travel by water, land and nowadays, air, and is open to all the illnesses and plagues carried by man or beast. Since the advent of the St. Lawrence seaway there is already a new alertness, a fear of diseases brought directly from foreign shores, that may stimulate a new look at preventive medicine, and new heroes may be born.

It was to this region, the passageway to the west, that Nicholas Senn came at the age of eight from Switzerland in 1852. His restlessness and his passion for progress can be understood by a statement with which he opened a paper in 1893: "We live in an age of great unrest in medical literature. Books written only yesterday are old today."

In looking over the history of medicine, it is difficult at first to believe that so little progress was made between the eras of Tiglath-Pileser and what we choose to call the modern era of the nineteenth century. When a Mesopotamian became ill, it was popularly believed that either he or one of his family had committed a sin. The illness therefore was punishment, ordered by the gods and meted out by demons. That is why physicians needed to be priests and medicine was taught in the temple. Besides reading, writing, science, religion and literature, the physician-priest needed a knowledge of magic, divination and astrology. His task was to treat the sick with charms, drugs and minor operations. His fees were regulated by law; so were the penalties if his treatment caused death or injury. There were no courts of law in which the patient could sue for malpractice, so the law provided for the cutting off of the physician's hands, or some other reminder if he was a failure.

Physicians used fumigation, medicated baths, hot and cold water. They recognized a great many common illnesses, including jaundice, rheumatism, tumors and respiratory ailments. Hematuria was known to be associated with a syndrome now known as bilharziasis. Enemas and purgatives were used extensively to prevent the absorption of decayed fecal contents. Drugs were given in anal suppositories or were blown into the urethra through a tube. Apparently chiropractic existed then, because one reads of manipulations of the spine. Certain days each month were set aside on which the physician made no calls. This is probably the origin of the modern "Wednesday afternoon off." No emergency call panels or grievance committees existed. The penalties inflicted upon physicians for failure to produce a cure is good evidence that the public relations of physicians of that era were even worse than those we "enjoy" today.

Now that we have a picture of medicine as it was practiced in Babylon and Nineveh, let us look at the situation that confronted young Dr. Nicholas Senn when he graduated from Chicago Medical College in 1868.

A glance into the history of the late nineteenth and early twentieth centuries reveals that the sanitation prevailing left much to be desired. A great deal of the drinking water came from wells that were not adequately protected. The community drinking cup was still in vogue. Outdoor "plumbing" was still in use. Health departments had a much more difficult time policing public eating places than they have today. The disposal of waste from the sick was almost impossible; in many instances it was just dumped out in the back yard.

Tuberculosis was known to be contagious as early as the fourth century B.C. Celsus, about the same time, recommended life at sea. In the fifth century B.C. Hippocrates recognized the value of early treatment of tuberculosis. Galen, in the second century A.D., again warned against contagion. Yet in Nicholas Senn's time the profession had not gone much farther. The fresh air treatment was still in vogue. Children went to outdoor schools, winter and summer, at the tuberculosis hospitals. Adults were treated in outdoor hospitals or, if they stayed at home, arranged an outdoor isolation unit for themselves. This represented a recognition of contagion, which, according to Aristotle, had been recognized by the Greeks as early as the fourth century B.C.

Contagious disease in Senn's time was rampant. Differential diagnosis was extremely important, because a child or a young adult with a fever, abdominal pain, nausea and vomiting, operated upon for appendicitis and having a normal appendix removed, might, the next day, have full-blown scarlet fever. Today such an error in diagnosis usually results in nothing worse than an excuse for another blast by one of our colleagues in a weekly newsmagazine.

Now that we have a picture of the era in which Nicholas Senn lived, we can imagine what his problems were. It is also apparent that some of his problems in the forty years from 1868 to 1908 were about the same as those that confronted the physician in the time of Nebuchadnezzar. In many ways Nicholas Senn and his colleagues accomplished as much during forty years as had been accomplished in the preceding four thousand.

Let us document a little of his life, some of his accomplishments and some of his philosophy.

Nicholas Senn was born in the Canton of St. Gaul, Switzerland, on Oct. 31, 1844. In 1852 the family moved to Washington County, Wisconsin. In 1868, at the age of 24, he received his medical degree from Chicago Medical College, which is now Northwestern University Medical School, and then served as an intern at Cook County Hospital for eighteen months. After this he practiced at Ashford, Wisconsin, where his first son was born on Nov. 18, 1869. Six years later, about 1876, he moved to Milwaukee. In 1877 he visited Europe, and in the following year he graduated *cum laude* from the University of Munich. Several years after his return from Europe he was appointed professor of surgery at the College of Physicians and Surgeons of Chicago, but for some time he continued to live in Milwaukee.

In Milwaukee, it is said, he had a laboratory constructed under the sidewalk and connected to his office building. Night after night for years he carried on his original investigations and dissections of guinea pigs, rabbits, sheep, calves and human cadavers.

In 1888 he was elected to the chair of Principles of Surgery and Surgical Pathology in Rush Medical College, and one year later he succeeded the late Dr. Charles T. Parkes in the Chair of Surgery and Clinical Surgery at Rush.

In 1892 he founded and was the first President of the Association of Military Surgeons of the National Guard.

In 1894 he was President of the Chicago Medical Society. In 1897 he was President of the American Medical Association.

He was professor of surgery at Rush Medical College and at Chicago Polyclinic. He was Surgeon-in-Chief at St. Joseph's and Presbyterian Hospitals.

His early work in experimental surgery made him foremost in his field. His research on intestinal perforations and on gunshot wounds added greatly to general knowledge in this field. He was the foremost military surgeon of his day. He introduced the use of decalcified bone plates in intestinal anastomosis. He developed modern ideas in the management of surgical tuberculosis.

A lasting monument to his memory is the "Senn collection," a medical library valued at $50,000, which he gave to Newberry Library and which was later transferred to John Crerar Library. Even with all his travels and extracurricular activities he must have been a fairly busy surgeon and financially successful, for he presented a clinical building to Rush Medical College. He gave $25,000 to endow the Senn professorship of surgery at Rush Medical College and $35,000 to endow a room for perpetual care of members of the medical profession at St. Joseph's.

He traveled extensively and wrote many articles about his visits to other countries. On one of these trips, while ascending the Andes, Dr. Senn was stricken with dilation of the heart. He died on Jan. 12, 1908.

To achieve a full understanding of his energy and philosophy, let us review some quotations from the writings of Nicholas

Senn, or quotations from those who knew him well.

S. M. Wylie, in his biography of Nicholas Senn, says, "Senn lived in an epoch-making period of surgical discovery, and was quick to recognize its importance and to seize upon its wonderful opportunities. Old untenable theories were to be exploded; dogmas that had received the sanction of ages were to be overthrown. He was hunting for ultimate causes and for the basic principles that underlie or determine or modify disease."

Senn himself, on assuming the chair of surgery at Rush Medical College in 1889, said, "I am fully conscious of the fact that I am coming at a time when the methods of teaching are undergoing a radical change. In the future recitations will largely take the place of didactic lectures."

In 1889, in a paper on appendicitis, Senn made the observation that almost all surgeons are agreed that operation is necessary when it has been established beyond a doubt that perforation has taken place. Then he said, "The principal object in writing this paper is to call the attention of the profession to the necessity of treating the *primary* disease of the appendix by radical measures before the advent of incurable complications: that is, before perforation has occurred." He then describes the symptom complex we recognize today.

In 1901 he presented a paper entitled "Present Status of the Carcinoma Question." This paper sounds as though it had been written today. Senn quotes a number of eastern surgeons who prove by statistics that carcinoma is on the increase. He then goes on to show that "more accurate diagnosis, more frequent postmortems, a more general resort to operative interference and increased longevity are some of the more important arguments in proving the relative increase in carcinoma."

On the inoculation of carcinoma, Senn described an operation that he had performed upon himself to place a fragment of carcinoma from the lower lip of a patient into his own forearm. He seemed disappointed that the experiment was a failure.

On treatment he said, in 1901, "As we are still ignorant concerning the essential etiology and true nature of carcinoma, the treatment pursued up to the present time has been largely of a palliative, tentative and empirical nature. The only real advances made have been in its operative treatment. . . . It is true that from time to time remedies have been proposed for which specific curative properties were claimed."

He then filled several pages with discussions of various serums, pastes and internal medications, much as we hear of them today. He concluded, "The early and radical operative treatment in carcinoma offers the only prospect in permanently eliminating the disease."

In a paper entitled "The Physician as a Scientist" he said: "Combined with science, medicine is the noblest of all professions; without science it is the meanest of all trades."

In the Crerar Library there exists a time-worn document signed by many prominent men, entitled, "Protest Against Resignation from Rush." All would recognize many of the names signed to this document.

Senn High School in Chicago was named in honor of Nicholas Senn.

A paper called "The Good Samaritan" is a notable tribute to the American White Cross First Aid Society.

Lucy Waite, M.D., in a monograph published under the auspices of the Nicholas Senn Club in 1909, called "Gems from the Literary Works of Nicholas Senn," quotes Senn as follows: "The surgeon who understands the principles and practice of good cooking is of more service to the troops than the one who can repeat, word for word, the contents of the most exhaustive treatise on materia medica and therapeutics."

In his annual address before the Wisconsin State Medical Society in 1879, at which time he was president of that body, Senn, speaking on medical legislation, said: "The object of medical legislation should be to protect the educated physician, to sustain the honor of the profession, and to guard the people against the impositions of ignorant pretenders." He made a strong point of the fact that the teachers should not be authorized to license a physician, since the teacher's income depends upon the number of students he could graduate and license.

His baccalaureate sermon before the graduating class at Rush on Sunday, June 1, 1901, finished with these words:

"Gentlemen of the Graduating Class: You have finished your studies and are about to enter the ranks of a noble profession. Money, reputation and fame should not influence you in your conduct toward your patients. Remember that your profession always has been, is now, and always will be, noted for its charity to the deserving poor; and that your main object in the life before you should be to promote science, elevate and protect the dignity of your profession, prevent disease, prolong life, alleviate suffering—duties which if well performed, will entitle you to occupy the highest position attainable by mortal man."

Up to now we have had a glimpse of the man, the philosopher, the surgeon and the teacher. Let us presume for a moment or two that Nicholas Senn is with us today. What would be his response to the trends of the time?

He would most certainly be of tremendous help to the Founder of the International College of Surgeons. He and Dr. Max Thorek would make a great team of world travelers.

What would Dr. Senn think of present-day medical education? Would he cut down on the premedical years? Would he add to the clinical years? What would he think of our method of developing surgical specialists? Would he think that the old method of general practice, followed by a preceptorship or postgraduate study, was superior to our present method? Would he criticize the residency that is available only to the young man who has the time and the money to serve a full four years after internship? Would he criticize the fact that a student is forced to choose his specialty before he has had an opportunity to practice medicine, and thus is frequently unsuited for a specialty selected in haste?

What about the future of surgery? Dr. Senn would no doubt be the first to take a good look; if he were here, what would he see? The incidence of appendicitis, according to personal observation and numerous articles appearing in the literature, is down about 50 per cent. The frequency of acute cholecystitis is greatly reduced. Operation for obstruction of the small bowel due to old peritonitis or a previous operation is almost extinct. Pelvic inflammatory disease and hysterectomies done for a painful pelvis, metritis, parametritis or endocervicitis have been greatly reduced by the antibiotics. Perineal repairs are much less frequent in this era of good obstetrics. Gastric operations for a complication of ulcer may be on the decline, because today's management reduces the incidence of the complication that requires it. Cardiac surgical measures to correct the results of rheumatic fever will be no more in a few years, if antibiotics continue to control the infection. Operation for tuberculosis is giving way to drugs. Hernias, the direct inguinal type, should be and probably are on the decline with the advent of the lift truck and the lifting tail gate which substitutes for the old "heave-ho, up she comes."

Maybe the surgeons of our age have seen the golden age of surgery. After World War II, in the era of prosperity, when antibiotics permitted us to perform heroic procedures, and before the day when antibiotics eliminated the need for surgical intervention, we, who sought our livelihood in general surgery, prospered. It can't last forever. When the cure is found for carcinoma, there may be no surgery except for congenital deformities and trauma. Perhaps we should advise our sons to become orthopedic or plastic surgeons. The day of the general surgeon may be passing.

We have looked at the surgery of ancient times, we have reviewed the past, we have known the present, and we have taken a look into the future. We have reviewed the life of Nicholas Senn and have seen him in a brief forty years as a physician who influenced immeasurably the practice of medicine, so that this era at the turn of the century must be recognized as an era of great progress, triumphant against tremendous odds.

Nicholas Senn died as he lived, climbing a mountain.

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We are all dietetic sinners; only a small percent of what we eat nourishes us, the balance goes to waste and loss of energy.

One pancake for lunch and half a boiled egg for dinner makes a man at sixty able to do anything a college athlete can do.

—*Osler*

New Books

BOOKS RECEIVED

The following books have been received by the Editor; they will be reviewed critically as space and facilities permit. Omission of more extended review, however is not to be taken as criticism of the merit of the book.

The Surgeon's Tale: The Store of Modern Surgery. By Robert G. Richardson, New York: Charles Scribner's Sons, 1959. Pp. 278, with 45 illustrations.

History of American Medicine (MD International Symposia). Edited by Felix Marti-Ibañez. New York: MD Publications, 1959. Pp. 181.

Spinal Cord Compression. By I. M. Tarlov. Springfield, Ill.: Charles C Thomas, Publisher, 1957. Pp. 147, with 41 illustrations.

Le Diagnostic du Cancer d'Estomac a la Periode Utile (Diagnosis of Carcinoma of the Stomach at the Time Most Favorable for Treatment). By Rene A. Gutmann. Paris: G. Doin et Cie, 1956. Pp. 257.

Operative Surgery. Edited by Charles Rob and Rodney Smith. London: Butterworth & Co., Ltd.; Philadelphia, F. A. Davis Co., 1956. Vols. 1 and 2 of 8 (plus index). Profusely illustrated.

Pathology and Surgery of the Veins of the Lower Limbs. By Harold Dodd and Frank Cockett. Baltimore: The Williams & Wilkins Company, 1957. Pp. 462, illustrated.

Functional Bracing of the Upper Extremities. By Miles H. Anderson. Springfield, Ill.: Charles C Thomas, Publisher, 1958. Pp. 463. Illustrated.

The Clinical Management of Varicose Veins. By David Woolfolk Barrow. New York: Paul B. Hoeber, 1957. Pp. 167, with 70 illustrations.

Tumors and Tumorous Conditions of the Bones and Joints. By Henry L. Jaffe. Philadelphia: Lea & Febiger, 1958. Pp. 629, with 194 illustrations. *Reviewed in this issue.*

Principles of Disabality Evaluation. By Wilmer Cauthorn Smith. Philadelphia: The J. B. Lippincott Company, 1959. Pp. 210. *Reviewed in this issue.*

Surgery of the Colon. By E. S. R. Hughes. Baltimore: The Williams & Wilkins Company, 1959. Pp. 416, with 234 illustrations. *Reviewed in this issue.*

A Synopsis of Obstetrics and Gynaecology. By Aleck W. Bourne. Bristol: John Wright and Sons, Ltd., 1959. 12th ed. Pp. 632, with 167 illustrations. *Reviewed in this issue.*

The Law of Medical Practice. By Burke Shartel and Marcus L. Plant. Springfield, Illinois: Charles C Thomas, Publisher, 1959. Pp. 445. *Reviewed in this issue.*

Office Orthopaedics. By Lewis Cozen. Philadelphia: Lee & Febiger, 1959. 3rd ed. Pp. 431, with 321 illustrations. *Reviewed in this issue.*

Medical Management of the Menopause. By Minnie B. Goldberg. New York: Grune and Stratton, 1959. Pp. 98. *Reviewed in this issue.*

Handbook of Psychology. Section 1, Vol. I: Neurophysiology. Edited by John Field, H. W. Magoun and Victor E. Hall. Baltimore: The Williams & Wilkins Company, 1959. Pp. 779, with 449 illustrations. *Reviewed in this issue.*

Handbook of Psychology. Section 1, Vol. I: Neurophysiology. Edited by John Field, H. W. Magoun and Victor E. Hall. Baltimore: The Williams & Wilkins Company 1959. Pp. 779, with 449 illustrations.

This is the first volume of a new handbook of physiology sponsored by the American Physiological Society. Appropriately, it deals with the nervous system, by which the activities of other portions of the body are coordinated and controlled. There are 31 chapters, written by 35 contributors. The opening chapter by Mary A. B. Brazier, on the historical development of neurophysiology, is not only well written and well organized but thorough and will be valuable to everyone interested in the history of physiology and medicine.

Neurone physiology is covered in seven chapters and brain potentials and rhythms in six. The section on sensory mechanism comprises ten chapters. After an introduction and a chapter on sensory receptors (nonphotic) in lower forms, touch and kinesthesis, thermal sensations, pain, taste, smell, vestibular mechanisms and auditory receptors and central mechanisms are taken up in separate chapters. Another section of six chapters is given over to the physiologic aspects of vision. In the final chapter Robert B. Livingston summarizes current knowledge of the central control of receptors and sensory transmission systems. An excellent index comprises 17 pages.

This is essentially a reference work. Many clinicians will be dismayed by the first two sections, since a considerable knowledge of modern physics, chemistry and electrophysiology is essential to the understanding of these chapters. It should not be assumed that the latter part of the book is less scholarly, but the subjects dealt with therein have more direct practical interest to the clinician.

The neurophysiologist cannot afford to be without this book. The otologist, the ophthalmologist, the neurologist and the neurosurgeon will all find it an important reference work. Taken as a whole, it contains in a single volume the presently available fact and theory of the physiology of the nervous system. The editors are to be congratulated.

HAROLD C. VORIS, M.D.

The Law of Medical Practice. By Burke Shartel and Marcus L. Plant. Springfield, Illinois: Charles C Thomas, Publisher, 1959. Pp. 445.

Written by two professors of law at the University of Michigan, this extremely lucid text is intended not to make every doctor his own lawyer but to inform him of the legal aspects of medical practice—what are his rights, his obligations, his liabilities; in other words, how to keep himself out of legal pitfalls and when to seek legal advice.

The text covers all situations of a *general* nature, with ample citation of court decisions. Many confusing questions are answered, and there is an extensive bibliography for further study.

In these days of increasingly complicated involvement of professional service, the book is most highly recommended to both the medical and the legal practitioner for their separate and mutual benefit.

MAX THOREK, M.D.

A Synopsis of Obstetrics and Gynaecology. By Aleck W. Bourne. Bristol: John Wright and Sons, Ltd., 1959. 12th ed. Pp. 632, with 167 illustrations.

This is the twelfth edition of this useful book to be published since 1913. The section on obstetrics occupies 345 pages; the section devoted to gynecology, 240 pages. Considerable outdated material has been removed, and many new data have been added. The book is definitely up to date.

All the information is presented in outline form, as the title indicates. There are numerous illustrations, and, though all of them are tiny drawings, they are clear and instructive. A good deal is said about postmaturity, even though most American obstetricians are not worried too much about this condition, and I suspect that Bourne also is not often upset by postmaturity. In the section on anesthesia the author says, "Spinal anesthesia has a vogue in certain American clinics but is seldom used in Britain for normal labour." The author uses the term "transverse position" rather than "transverse lie" or "shoulder presentation," which seems preferable to me. The section on fibrinogenopenia is excellent and up to date. There is also a very modern chapter on pelvic tuberculosis. The index is remarkably complete and greatly enhances the value of the book.

There is no doubt whatever that the new edition will increase still more the popularity of this outstanding book. It is packed with important and useful information about both obstetrics and gynecology. The author is to be congratulated for keeping this book in the forefront of obstetric and gynecologic literature for forty-six years.

J. P. GREENHILL, M.D.

Tumors and Tumorous Conditions of the Bones and Joints. By Henry L. Jaffe. Philadelphia: Lea & Febiger, 1958. Pp. 629, with 194 illustrations.

This authoritative text presents an integrated study of the tumors and tumorous conditions affecting the bones and joints. In its correlation of the data—clinical, roentgenographic and pathologic—the book is important, and is of value to general surgeons, orthopedic surgeons, radiologists and pathologists alike. It considers not only the primary tumors and other tumorous conditions affecting bones and joints but tumors metastatic to the skeleton, tumors developing in bone at sites of damage from noxious agents, and tumors invading bone from overlying soft parts.

Careful attention is given to the diagnostic approach and the problems of differential diagnosis.

The text is concise and explicit. It covers the full range of the subject, including some types of tumorous conditions not previously presented in a text of this kind, such as juxtacortical chondroma, juxtacortical osteogenic sarcoma, fibrous cortical defect, desmoplastic fibroma, and benign osteoblastoma.

The illustrations — roentgenograms and photographs portraying the gross and microscopic changes discussed—are explained in detail.

The author, an acknowledged authority on his subject, gives due credit to others in the field, and their contributions are cited.

The index is thorough, and the book-making excellent.

This text, with its fresh and contemporary view of its subject, is sound, practical, complete and informative, and is recommended to all general surgeons as well as specialists.

MAX THOREK, M.D.

Office Orthopaedics. By Lewis Cozen. Philadelphia: Lee & Febiger, 1959. 3rd ed. Pp. 431, with 321 illustrations.

This is the third edition of a book that is quite valuable for general practitioners and general surgeons who are called upon to treat orthopedic problems in their offices. The format and chapter titles are the same as in the previous editions, but the treatment has been brought up to date, including many indications for hydrocortone injections. More and more improved illustrations have also been added.

Many chapters include an adequate synopsis of differential diagnosis, to be considered in the case of a presenting complaint, such as a limp in a child, a painful arm or leg in a child, and the case of the child who is unable to sit up or who has an abnormal leg or arm. In addition, the author has included a resume of the diagnosis to be considered when an adult complains of pain, weakness or coldness and pain in an arm or a leg.

The section entitled "Orthopaedic Cases for Law Court" is particularly well done and should aid any surgeon who has made only an occasional court appearance to present a clear picture of the patient's disability.

ROBERT G. THOMPSON, M.D.

Medical Management of the Menopause. By Minnie B. Goldberg. New York: Grune and Stratton, 1959. Pp. 98.

The author wrote this small book because her clinical practice, bridging both the prehormonal and the hormonal era, has convinced her of the great boon of hormonal therapy for disturbances associated with the menopause. She successfully disproves the baseless and unproved fear of some physicians that the estrogens are responsible for carcinoma in women.

The book contains a great deal of useful information about treatment of the change of life. There are lists of the common commercial preparations of estrogens, androgens, combined estrogen-androgen preparations and progestins, with their trade names, the firms that manufacture them, the generic names, the effective doses and their advantages and disadvantages. This is definitely a worthwhile book.

J. P. GREENHILL, M.D.

Surgery of the Colon. By E. S. R. Hughes. Baltimore: The Williams & Wilkins Company, 1959. Pp. 416, with 234 illustrations.

This monograph is a sequel to *Surgery of the Anus, Anal Canal and Rectum.* The author, cognizant of the literature available, has written this book on the basis of his vast personal experience. This reviewer agrees heartily with Mr. Hughes when he states, "It is regrettable that clinicians interested in gastrointestinal diseases have allowed themselves to remain divided into physicians and surgeons." Although some phases of the book are quite technical, the author has also gone into the details of the all-important subject of chronic constipation. Too often, in studies of this condition, the so-called "simple or elemental" is overlooked. For particular commendation should be mentioned Chapter Five, "General Principles and Technique in Large-bowl Surgery." Figures 49 through 54, depicting the placement of anastomotic sutures, are especially lucid. References are listed at the end of each chapter; the author and subject indices are excellent. This book can be recommended to anyone interested in diseases of the colon, be he physician, surgeon, or student.

PHILIP THOREK, M.D.

Principles of Disability Evaluation. By Wilmer Cauthorn Smith. Philadelphia: The J. B. Lippincott Company, 1959. Pp. 210.

This work is divided into four sections, of which one is an introduction to the subject and consists of 33 pages. It touches on the growing concept of disability compensation and the increasing medical obligation to furnish advice concerning disabilities. It ends with a discussion of medical testimony, indicating the need for pre-trial conference and the conduct of the expert witness while on the stand.

Section 2 covers the nature of disability. In this dissertation the author utilizes approximately 15 pages, discussing the causes, effects and the permanence of disability, pointing out the uses and abuses of adequate time for healing and treatment.

Section 3 deals entirely with the relation of the disability to the alleged occurrence, and the author utilizes approximately 40 pages in this portion of the book.

Section 4 is devoted to the evaluation of disability, and here the author utilizes approximately 100 pages of the book, in which he covers the modes of determining what each disability may mean to the patient and the available methods of translating the meaning to a proper evaluation report. He touches upon disfigurement, functional states, cardiorespiratory injuries and practically everything that can become pertinent in a controversial case.

The book is well worth reading.

H. E. TURNER, M.D.

Abstracts from Current Literature

Pediatric Neurosurgery. By I. J. Jackson and R. K. Thompson. Springfield, Ill.: Charles C Thomas, Publisher, 1959. Pp. 564, with 186 illustrations.

This book is the work of twenty-four contributors, the majority of them young and active neurosurgeons. The entire field of neurologic surgery is covered in the 21 chapters, even such relatively unimportant subjects in pediatric surgery as involuntary movements, mental illness and epilepsy.

The book is divided into two parts. The first seven chapters deal with general considerations related to pediatric neurosurgery and include two chapters by the editors. The chapter by Panos on the principles of preoperative and postoperative care is outstanding in this section. The next 14 chapters are devoted to specific neurosurgical entities. The treatment of congenital malformations by Meacham, intracranial vascular malformations by Mount and intracranial and cranial tumors by French is especially well handled. The three chapters on trauma, by Gordy, Mabon, and Gay respectively, are also well done.

Repetition has been avoided much better than in many books by multiple contributors, but, as was to be expected, some subjects are presented in more detail than their importance warrants, while other more important ones are given less space. Examples of this are the chapters on diagnostic technics (10 pages) and electrodiagnostic methods (15 pages). The relative familiarity of neurosurgeons with surgical diagnostic procedures may be advanced as a reason for the almost synoptic presentation of these methods, but the medical student, the intern, the resident or even the pediatrician might well profit by a more extensive consideration of lumbar, cisternal, subdural and ventricular punctures and electroencephalographic, ventriculographic, myelographic and angiographic technics. The indications and contraindications for these procedures are not sufficiently stressed.

This book will be compared with that by Ingraham and Matson issued by the same publisher five years ago. It does not suffer by the comparison. The editors have planned a book by a large group of contributors representing not only neurosurgery but auxiliary specialties, which would cover the entire field of pediatric neurosurgery. Within the natural limitations of such a plan, they have done an excellent job. The work can be recommended to everyone interested in the care of children.

HAROLD C. VORIS, M.D.

The Syndrome of Laceration of the Broad Ligament. Varangot, J., and others, Presse Med. 67:1139, 1959.

In 1955, W. H. Masters and W. H. Allen of Washington University in St. Louis described a new clinical syndrome, which they called "traumatic laceration of the uterine support." They described a retroverted uterus due to abnormal mobility at the neck. They called this a "universal joint cervix." This type of cervix injury during childbirth, or injury during the performance of a dilation and curettage, is common. A bilateral tear usually occurs in the posterior leaf of the broad ligament. This, it is postulated, leads to lack of support for the uterus and is somewhat analagous to herniation. As a result of this, pelvic congestion occurs and causes many of the symptoms, such as abdominal and pelvic pain when the fundus is moved during intercourse, excessive premenstrual pain and dysmenorrhea. Weakness and fatigue develop because of the constant pelvic pain.

The authors review 30 cases observed in their own practice. They have divided the clinical syndrome into three parts: (1) etiologic factors; (2) clinical features, and (3) anatomic observations.

Either a traumatic delivery or a dilation and curettage is usually noted in the recent history. Complaints consist of abdominal and pelvic pain accentuated by intercourse, dyspareunia, dysmenorrhea and tiredness. An abnormally mobile cervix and a retroverted fundus are often encountered on pelvic examination. At operation a tear is usually observed in the posterior leaf of the broad ligament on each side. This involves the peritoneum and the fascia beneath it. A varicocele may be obvious, and there is a little free fluid in the pouch of Douglas. One type of tear is quite definite; the other is merely suspected because the peritoneal layer is thin and a varicocele can be seen deep in relation to it.

The forceful manipulation of a gravid uterus or the onset of puberty in a girl with a congenitally retroverted uterus may also cause the syndrome. The simplicity of repair by simple approximation is stressed. A two-layer closure is performed, and the operation is completed by suspending the uterine fundus.

THOMAS A. MCLENNAN, M.D.

Suprapubic Vesicourethral Suspension for Stress Incontinence in Women. Uhle, C. A.W., Bradley, R. H., Jr., and MacKinney, C. C., J. Urol. 81:749, 1959.

Urinary stress incontinence is a common female complaint and is estimated to affect approximately 5 per cent of all adult women. For surgical correction of this condition, patients should be carefully selected and an accurate preoperative diagnosis made. A complete urologic survey is most important. The urethral elevation or stress test is most important, but it is not an infallible presumptive diagnostic sign.

The intelligent application of this operative technic is a valuable addition to the treatment of this common and distressing condition.

EDMUND LISSACK, M.D.

Observations on the Relationship of Benign Adenomatous Polyps of the Colon to the Natural History of Colonic Cancer. Cole, J. W.; O'Hara, R. S., and Holden, W. D., Surg., Gynec. & Obst. 108:651, 1958.

A follow-up study of two groups of patients undergoing curative resection for adenocarcinoma of the colon and rectum was undertaken. One group had associated adenomatous polyps; the other group apparently did not.

The results of the study indicate that the polyp-forming group had a 75 per cent chance of being alive six years after the resection, as compared to 46 per cent for patients without polyps.

The possible implications of these observations are discussed. It is recognized that a larger group of patients must be studied to confirm the hypothesis, even though these data have statistical significance.

WILLIAM E. NORTH, M.D.

Correction of Fistula of Stensen's Duct by Wire Seton. Erwin, J. H., Surg., Gynec. & Obst. 109:247, 1959.

External salivary fistula, a complication of surgical procedures in or near the parotid gland, has been treated by many surgical technics in addition to the use of roentgen rays for the suppression of secretory activity in the residual gland.

Many of the surgical technics have been ingenious and the results often excellent, although repeated and prolonged attempts to produce surgical correction have been frequently reported. The present short article reports a single case in which successful correction was achieved by a method previously described (1955) by Fishler and Pogorel.

The small operative procedure was carried out easily with the aid of infiltration analgesia. It consisted of the placement of a U-shaped piece of No. 7 tonsil wire into the cheek to straddle the cutaneous opening of the fistula. The wire was fixed in place by twisting it within the mouth. The patient was protected with a standard dose of tetanus antitoxin and the administration of a broad spectrum antibiotic. Approximately three weeks later, after the swelling in the cheek had subsided and the small loop of wire had become proportionally looser, it was tightened within the mouth. Approximately one month thereafter the skin had completely healed, and the wire was cut and removed through the mouth. There was no further external salivary drainage. The new opening was clearly visible, and a free flow of saliva from it was readily observed.

This simple procedure, utilizing the necrosing ligature concept, is deserving of careful consideration in similar situations.

THOMAS WILENSKY, M.D.

Evaluation of Current Surgical Therapy for Peptic Ulcer. Judd, E. S., J. M. A. Alabama 27:340, 1958.

Critical evaluation of the management of duodenal ulcer indicates that it is largely a nonsurgical problem. Only when the ulcer is out of hand should the surgeon be called on to attempt to control it.

In deciding which operation to employ, the patient's racial and emotional characteristics are highly important, and persons known to have come from environments of stress require a much more radical approach. Although duodenal ulcer is less common in women than in men one often finds among them a relatively more complicated situation, requiring more extensive treatment. For young persons more extensive surgical treatment is indicated than for octogenarians. The choice of operation is affected also by the patient's occupation, gastric acidity studies, the degree of gastritis present, duodenal deformity and multiplicity of lesions. Perhaps the most important consideration of all is the technical difficulty.

Vagotomy plus pyloroplasty is used in some centers routinely, but the results have been so much at variance with the authors' that they were persuaded to do a different operation. They perform vagotomy with gastroenterostomy on patients with: (a) technical problems, such as obesity, extreme inflammatory change in the duodenum involving the pancreas or biliary system, or postoperative adhesive states; (b) finicky appetite, and (c) stenosis of the pyloric region in the elderly.

In their hospital, gastric resection remains definitely the most satisfactory operation. By its use, control of the acid-pepsin factor is accomplished in large part. The hormonal control elaborated by the antrum is eliminated completely, although the "cephalic phase" is still present. On a theoretical basis at least, since the gastric remnant has a reduced number of acid cells and since the alkaline intestinal content is constantly delivered into the gastric remnant, an ideal situation has been brought about through surgical treatment. "We are the first to admit," say the authors, "that this ideal is not achieved in anywhere near 100 per cent of the cases." They remove the ulcer when it can be done safely.

Hemigastrectomy plus vagotomy is being used and appraised for patients who might well have been candidates for great nutritional problems after the operation but who needed more radical treatment than simple vagotomy plus gastroenterostomy.

They do not often employ the Billroth I resection for duodenal ulcer, reserving it for elderly patients or patients with acutely perforated duodenal ulcer and gastrojejunal ulcer.

For gastric ulcer, surgical treatment has no peer, and the Billroth I operation for benign gastric ulcer holds a firm place.

Excision of the ulcer is done rarely by the authors, and only under the guidance of the pathologist.

Prophylactic distal resection is mentioned only to condemn it.

If a marginal ulcer has followed what appears to have been a truly adequate resection, it is often advisable to settle for vagotomy.

WILLIAM E. NORTH, M.D.

Carcinoma of the Bladder: Development and Evaluation of Current Concepts of Therapy. Jewett, H. J., J. Urol. 82:92-100, 1959.

The author beautifully traces the development of the treatment of carcinoma of the bladder. He points out that there is general disagreement concerning the efficacy of each method of treatment, and that no single method of treatment is best for all tumors.

The choice revolves around the stage of infiltration; the capacity of the bladder; location, circumference, number and kind of tumors; the distinctness of their margins, and the condition of the upper part of the urinary tract.

One may well profit by reading the article in its entirety for a better understanding of the treatment of vesical carcinoma.

SHEPARD JEROME, M.D.

Sowing of Small Skin Graft Particles as a Method for Epithelization, Especially of Extensive Wound Surfaces. Nystrom, G., Plast. & Reconst. Surg. 23:226, 1959.

Because of the extensive losses produced by an ever-increasing incidence of burns, the methods described here for covering such surfaces merit the close attention of hospital divisions and personnel who are frequently confronted with such problems.

In a series of ingenious experiments the author has succeeded in improving materially upon Reverdin's plan, first introduced in 1869, for the creation of islands of epithelization in a wound by using particles of autologous skin. The author has developed an apparatus with which a split skin graft the size of a postage stamp can be cut accurately into about 600 particles.

Furthermore, he has improved the method of applying these tiny skin grafts to the recipient site with the outer (cornified) side up, by weighting the skin graft with a plastic material, so that some control was provided. This influenced the grafts to turn right side up when they were permitted to fall through a liquid sedimentation chamber onto a nylon net. Experiments in animals were followed by the treatment of human patients, particularly for ulcers of the leg, after which a set of brilliantly contrived experiments were carried out in which extensive areas denuded of skin were covered with a combination of homografts and autogolous small skin graft particles. The results, although they did not indicate that all of the problems were solved, gave distinct promise of substantial benefits from this technic.

Already the author has plans for improving the technic. He has suggested a more convenient cutting apparatus for preparing the tiny skin grafts. He has also suggested the possibility of influencing the particles by electromagnetic charges for a more even dispersal with the raw side down. He is not yet convinced, however, that it is entirely necessary for the grafts to be directionally placed with reference to the underside's being up or down. In his opinion, nevertheless, this technic will never make obsolete the use of homografts, the protecting power of which in life-threatening extensive burns during some critical weeks may be more important than the disadvantage of a suspected moderate retardation in epithelization of the wound.

THOMAS WILENSKY, M.D.

A Skin Test in Thyroid Disease. Buchanan, W. W.; Anderson, J. R.; Goudie, R. B., and Gray, K. G., Lancet 2:928, 1958.

Intradermal tests, with use of a saline extract of human thyroid tissue as antigen, were carried out in 52 subjects, of whom 33 had thyroid disease. The skin reactions were classified as strongly positive or weakly positive. There was close correlation between the presence of circulating thyroid precipitins and strongly positive skin reactions.

In general, positive skin reactions were observed in patients with Hashimoto's disease or with primary myxedema. With 1 exception, positive reactions did not occur in any person without clinical evidence of thyroid disease. The skin reaction was compatible with an Arthus phenomenon, and the addition of cortisone acetate to the inoculum tended to increase the size of the reaction.

These observations show that thyroid antigen is capable of producing an abnormal tissue reaction in certain patients with thyroid diseases suspected of having an auto-immunizing cause, and they provide a further link between Hashimoto's disease and primary myxedema.

Although the intradermal test may help to elucidate the auto-immune phenomena of human thyroid disease, it should not be used as a diagnostic test. Effective *in vitro* tests are available, and there is a small but appreciable risk of transmitting homologous serum jaundice by the injection of human thyroid extract. Furthermore, such an injection in a susceptible individual may induce thyroid antibody formation.

WILLIAM E. NORTH, M.D.

IMPORTANT ANNOUNCEMENT

Contributors of scientific articles for publication in The Journal of the International College of Surgeons from Europe, the Near East and the Middle East should send their articles to:

European Office of the
International College of Surgeons
6-8 Rue de la Confederation
Geneva, Switzerland

A special committee has been appointed to evaluate the papers submitted for publication. The Journal publishes summaries in English, French, German, Spanish, Italian and Portuguese. Summaries of articles should be included in as many of these languages as possible.

AVIS IMPORTANT

Les auteurs d'articles scientifiques destinés à être publiés dans le Journal du Collège international de chirurgiens sont priés d'adresser leurs articles à l'adresse suivante pour l'Europe, le Proche et le Moyen Orient.

Bureau Européen du
Collège international de chirurgiens
6-8 rue de la Confédération
Genéve (Suisse)

Un comité a été nommé pour l'examen des articles à paraître. Les auteurs sont priés de joindre à leur travail de brefs résumés en français, anglais, allemand, espagnol, italien et portugais si possible.

The following pages comprise

Section II

the BULLETIN

of the

Journal

of the

International College of Surgeons

Schedule of Meetings

1960

Twelfth Biennial
International Congress

INTERNATIONAL COLLEGE OF SURGEONS

Under the Auspices of
His Excellency

the President of the Republic of Italy

—o—

CONGRESS PRESIDENT
PROF. DR. PIETRO VALDONI

May 15-18

PLACE OF MEETINGS
Palazzo dei Ricevimenti e dei Congressi
(Palace of Receptions and Congresses)

Rome, Italy

SCIENTIFIC PAPERS
Surgeons living in the United States or South America
who wish to present papers, please write:

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850 W. Irving Park Road • Chicago 13, Illinois

Those living in Canada, write:

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1666 Broadway W.
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Those residing in Europe, Asia or Africa address:

Prof. Dr. Giuseppe Bendandi
Clinica Chirurgica • Policlinico Umberto 1° • Rome, Italy

The Journal of the International College of Surgeons

Vol. 32, No. 5 SECTION II November, 1959

BULLETIN

Embodying Activities of the World Federation of General Surgeons and Surgical Specialists, Section News and Comments

Editor-in-Chief—MAX THOREK, M.D.
Associate Editor—PHILIP THOREK, M.D.
Consulting Editor—MORRIS FISHBEIN, M.D.
Assistant Editors—DOROTHY LANGLEY AND HELEN WEISS

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Schedule of Meetings

INTERNATIONAL COLLEGE OF SURGEONS

1959

December Taipei, Taiwan (Formosa)	China—Formosa Section International College of Surgeons
December Jaipur (Rajasthan) India	India Section International College of Surgeons

1960

May 12-13 Paris, France	French Section International College of Surgeons
May 15-18 Rome, Italy	Twelfth Biennial International Congress International College of Surgeons
May 21-23 Tel-Aviv and Jerusalem Israel	Post-Congress International Conference of Surgeons Israel Section International College of Surgeons
September 28 Winnipeg, Canada	Manitoba Surgical Section Canadian Section International College of Surgeons
October Quito, Ecuador	Ecuadorian Section International College of Surgeons

Roads to Rome Tours

Combine

Attendance at the Congress With

One of Four

International College of Surgeons European Tours

I: A 21-day tour—New York, Rome and the Congress, Munich, Lucerne, Paris, Amsterdam, London and return to New York.

II: A 35-day tour—New York, Paris, Nice, Rome and the Congress, Naples, Sorrento, Capri, Florence, Venice, Lucerne, Heidelberg, Rhine cruise, Amsterdam, London and return to New York.

III: A 37-day tour—New York, Lisbon, Madrid, French Riviera, Rome and the Congress, Florence, Venice, Innsbruck, Salzburg, Munich, Heidelberg, Frankfurt, Rhine cruise, Paris, London and return to New York.

IV: A 40-day tour: New York, Rome and the Congress, Vienna, Moscow, Leningrad, Helsinki, Stockholm, Oslo, Copenhagen, Glasgow, Dublin and return to New York.

V: 11-day tour—from Rome to Israel, including 3-day Post-Congress International Conference of Surgeons in Tel-Aviv and Jerusalem, and return to Rome.

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Clinica Chirurgica • Policlinico Umberto 1° • Rome, Italy

FOURTH LECTURE SERIES

1959-1960

School of the History of Surgery and Related Sciences
International Surgeons' Hall of Fame
1524 Lake Shore Drive, Chicago

LECTURES BEGIN AT 8:00 P.M.

OCTOBER 20, 1959 . . . *"The History of Allergy"—Dr. Leon Unger, Associate Professor of Internal Medicine and Allergic Diseases, Northwestern University Medical School, Chicago*

NOVEMBER 24, 1959 . . *"The History of Gastroenterology"—Dr. Walter Alvarez, Professor Emeritus, University of Minnesota; Consultant in Medicine, Mayo Clinic; Widely Syndicated Columnist, Chicago*

JANUARY 12, 1960 . . . *"The Physician as a Book Collector—Notes on Famous Libraries"—Mr. Herman Henkle, Librarian of the John Crerar Library; Member of the Society of Medical History of Chicago*

FEBRUARY 2, 1960 . . . . *"Highlights of Orthopedic Surgery Through the Ages"—Dr. Philip Lewin, Professor Emeritus of Orthopedic Surgery, Northwestern University Medical School; Consultant in Bone and Joint Surgery, Cook County Hospital, Chicago*

FEBRUARY 23, 1960 . . . *"The Bookplates of Physicians"—Dr. Morris Fishbein, Professor Emeritus, University of Chicago, University of Illinois; Contributing Editor of Postgraduate Medicine, Chicago*

MARCH 15, 1960 . . . . . *"The History of Blood Transfusion"—Dr. Richard Lewisohn, Distinguished Contributor to the Field of Blood Banking; Consultant at Sinai Hospital, New York City*

APRIL 5, 1960 . . . . . . *"The History of Pulmonary Tuberculosis"—Dr. Jerome R. Head, Associate Professor of Surgery, Northwestern University Medical School; Former President of Suburban Cook County Tuberculosis Sanitarium Board, Chicago*

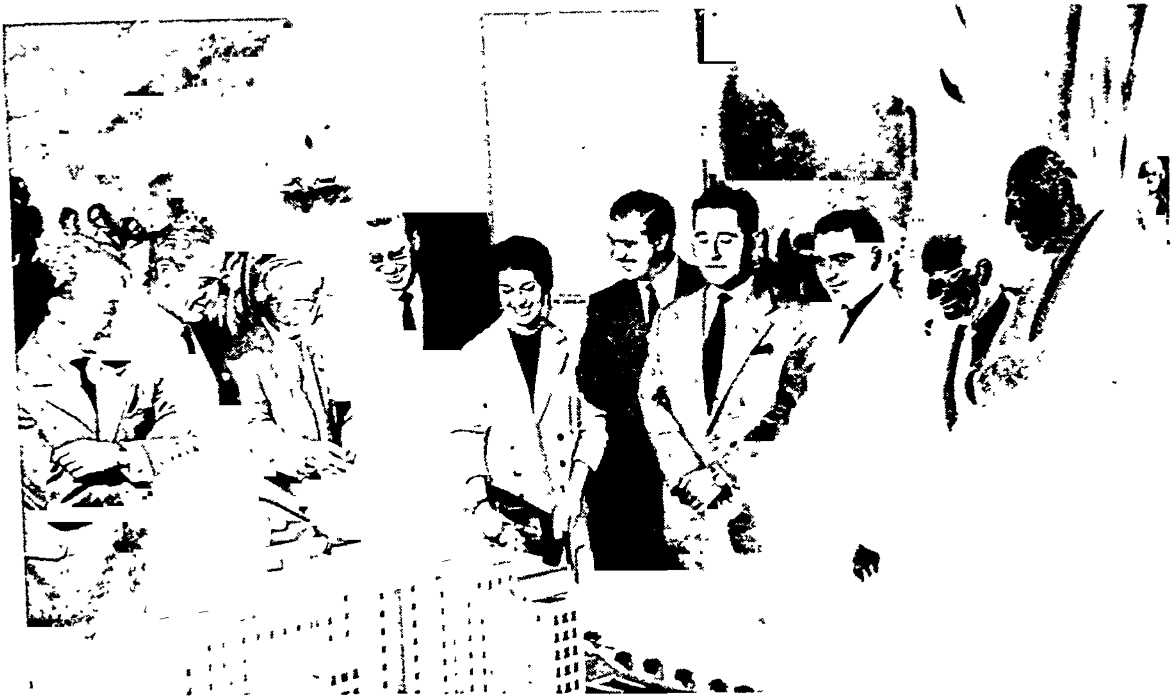
APRIL 26, 1960 . . . . . . *"Nicholas Senn and the Medical Center of Chicago"—Dr. Manuel Lichtenstein, Chairman, Department of Surgery, Cook County Hospital; Associate Professor, Northwestern University Medical School, Chicago*

MAY 10, 1960 . . . . *"Architects of Chicago Medicine"—Dr. Frederick Stenn, Author of Medical History Literature; Member of American Association of Medical History; Assistant Professor of Medicine, Northwestern University Medical School, Chicago*

International Surgeons' Hall of Fame

Dedicates Rooms to

FRANCE MEXICO SPAIN
THE NETHERLANDS



In the Spanish Room

Dr. Jean Vaysse, Paris; Prof. Dr. J. André Thomas, Paris; Prof. Dr. Raymond Darget, Bordeaux; Dr. Max Thorek, Chicago; Prof. Dr. Jean Creyssel, Lyons, and Mlle. Elisabeth Lesecq, Paris, in the French Room

Dedication Ceremonies

On Saturday, September 12, 1959, formal ceremonies and a reception at the International Surgeons' Hall of Fame marked the dedication of the recently completed rooms devoted to France, Mexico, Spain and the Netherlands.

The rooms all depict the development of surgery and yet they differ in that they are authentic and original expressions of the natural genius and national spirit of the countries they represent. Each room is not only a scientific exhibit and a historical record, but also an artistic entity in the creation of which native tradition played a motivating part. Thus there is a richness and a variety in the exhibits which could not have been fully anticipated and which delighted the viewers and aroused their enthusiastic and frequently repeated assurances that they would come again to study each unit more thoroughly.

On the day of the formal opening of the rooms, conducted tours preceded and followed the dedication ceremonies.

The program, which took place in the Hall of Immortals, was impressive and meaningful.

It was honored by the presence of Dr. **Henry W. Meyerding,** president of the International College of Surgeons, Dr.

Audience in Hall of Immortals

Prof. Dr. Jean P. Creyssel

Edward L. Compere, secretary of the North American Federation and president of the United States Section, and numerous officers and distinguished Fellows of the International College of Surgeons.

Dr. Max Thorek, founder of the College and of the International Surgeons' Hall of Fame, was introduced by Dr. Ross T. McIntire, executive director of the College.

Dr. Thorek felicitously greeted the assembly and expressed his own personal happiness at the fruition of his dream and ambition for the Hall of Fame. He invoked the spirit of brotherhood which brought together in that Hall, dedicated to greatness, surgeons from distant lands, and he bade them all a heartfelt welcome. He acknowledged the generosity of time and effort on the part of many friends of the College who had collaborated to make this auspicious occasion possible and assured them that what they had done was eminently worthwhile and would be long remembered. The Hall of Fame, he declared, would speak to the future not only in terms of the remote past which it enshrined but also of the achievements of those who built it and made it a reality.

M. Jean Béliard, consul general of France in Chicago, consular chairman of the occasion; **Dr. Jean Creyssel** of Lyons, president of the French Section of the International College of Surgeons; **Prof. Dr. Raymond Darget** of Bordeaux, secretary of the Section, and **Mlle. Elisabeth Lesecq** of Paris, assistant to **M. Bertrand Chenot**, the minister of health of the Republic of France, and his personal representative at the ceremony, participated in the opening of the French exhibit.

Prof. Dr. Raymond Darget

M. Jean Béliard

Address of Prof. Dr. Raymond Darget

The International College of Surgeons, thirteen thousand members strong, has long organized surgical congresses in the largest American and European centers, bringing together, from all countries, surgeons of all races and all creeds. But the College has achieved still more! Inspired by the eminent founder of the College, Max Thorek, an idea was born of presenting through documents and imperishable mementos the history of surgery in every country. This was in truth a unique idea never before thought of anywhere.

Through the efforts of Dr. Thorek and his collaborators, the idea took on form and is now a reality.

Today we are privileged to enter the French room. At the threshold, engraved in bronze, we pay tribute to our illustrious predecessors. Ambroise Paré *and* Maréchal *are the first of the glorious names. The engraved list is long, yet far from complete. What a task remains to be done! In justice to the brilliant tradition of French surgery, we should omit no major name of any period. Certainly the name of* Louis Pasteur *must be included, the Frenchman of everlasting glory who discovered the chief reason for the success or failure of surgical operations.*

We wanted today, especially for the inauguration of the French room, to commemorate a few of the great names in French military surgery.

First we thought of the legendary hero-surgeon, Baron Larrey! *We cannot look without emotion at the uniform which he wore, nor at the sword given to him by Napoleon in recognition of his having saved, on all the European battlefields, the lives of thousands of wounded soldiers.*

Besides these unique documents are those which refer to army surgeons Percy *and* Delorme, *to* Desgenettes *and, last of all, to the forerunner of heart surgery,* Médecin Général Fontan, *of whom the Bordeaux University and the Bordeaux Naval Medical School are rightfully proud.*

But all this, I repeat, remains incomplete. Gaps can and must be filled. That we will accomplish by adding to the French room annual exhibits, fed unceasingly from the precious and inexhaustible reserves of our museums, based around some central theme, say, for instance, one of the branches of surgical activity.

Permit me now, in conclusion, to address my very sincere thanks to the French officials: to the Minister of Public Health, M. Chenot, *represented here by his loyal secretary,* Mlle. Lesecq, *to* M. Seydoux, *Director of Cultural Relations, to* Prof. Donzelot, *F.I.C.S. (Hon.), to* Médecin Général Debénédetti, *to* Médecin Général Le Breton, *and, here in Chicago, to* M. Beliard, *consul general of France, for the very valuable help they have given us. And all of us thank from the bottom of our hearts the College itself and the Hall of Fame, which enable us to reach out to each other in fraternal collaboration, strengthen our service to humanity and help us to advance the cause of peace in the world.*

Message From M. Bertrand Chenot

Minister of Public Health, Republic of France

The Minister of Health, Mr. Bertrand Chenot, wishes me to express to all of you how much he regrets being unable to be here today.

In his name, it is my privilege to tell you, Mr. President, you, Prof. Thorek, and all the members of the International College of Surgeons how much he appreciates your great efforts to disseminate science and knowledge, and how grateful we French are for the most gracious hospitality you are giving this exhibition.

The articles displayed here have never left France before. One could not conceive of a more suitable, also more respected, museum in which to show them.

Thank you very much for your wonderful welcome.

Let me conclude on a personal note—only those of you who have traveled much and far know how delightful it is to set foot for the first time in the United States.

Mlle. Elisabeth Lesecq

Representatives of Mexico

Ambassador Carlos Darío Ojeda

Dr. Mario Gonzalles-Ulloa

Sr. Juan Richer

By a happy coincidence, September 12 is Independence Day in Mexico, which fact made the ceremony of dedicating the Mexican room doubly significant. Participants in the festivities were headed by **Ambassador Carlos Darío Ojeda**, personal representative of the President of the Republic of Mexico, and **Sr. Juan Richer**, consul general of Mexico in Chicago. **Dr. Mario Gonzales-Ulloa**, a distinguished Fellow of the Mexican Section of the International College of Surgeons, received the plaudits of both the officers and members of the College for his efforts and his accomplishments in making the occasion so marked a success, and **Dr. Daniel Rubín de la Borbolla** was complimented upon the extraordinarily artistic and effective character of the Mexican room, for which largely he was responsible.

Representatives of Spain and the Netherlands

Prof. Dr. Alfonso de la Peña

Dr. Francisco Ruiz Izquierdo

Mr. G. C. D. Hooft Graafland

The dedication of the Spanish room, with its magnificent murals, was brief but full of wit and dignity.

In his introduction, **Dr. Francisco Ruiz Izquierdo**, consul of Spain in Chicago, translated from the Spanish a proverb to the effect that good things if short are twice as good. Certainly his own remarks were very good indeed and were greeted most appreciatively.

Prof. Dr. Alfonso de la Peña of Madrid, recently elected president of the Spanish Section, received a ready ovation as a representative of his Section and spoke with characteristic Spanish grace and precision.

Mr. G. C. D. Hooft Graafland, consul general of the Netherlands in Chicago, officiated over the dedication of the Netherlands room. His gracefully phrased comments brought the program to a conclusion, after which the assembly broke up to tour the exhibits, visit with each other and take some time out for refreshment.

Since then, visitors have continued to come to the Surgeons' Hall of Fame and to explore and admire the four newly dedicated exhibits of France, Mexico, Spain and the Netherlands.

Address of Dr. Francisco Ruiz Izquierdo

Consul of Spain

It is a matter of real satisfaction to me, not only in my capacity as consul of Spain in Chicago, but also from a personal standpoint, to be present at the opening ceremonies of the French, Mexican, Netherlands and Spanish rooms in the International Surgeons' Hall of Fame.

In behalf of my country it is my pleasure publicly to express my gratitude for the work and enthusiasm of all those who have contributed their efforts to turn the Spanish Room into a reality, so that, in this way, the professional men of medicine as well as lay individuals who visit this Hall may keep in their minds a memory of the contribution of Spain, in world history, to the war against sickness, pain and death.

It is particularly appropriate that it be here, in this beautiful city of Chicago—itself a clear example of the peaceful gathering and harmony of people born, not only on American soil, but in faraway climes and regions as well—and here in the International Surgeons' Hall of Fame, that some of the outstanding achievements by men of genius for the benefit of the health and welfare of their fellow beings remain in exposition.

I cannot but congratulate myself that the memory of Spain, together with that of the other countries whose rooms are being dedicated, is at this hour present in this building and in this city.

Address of Mr. G. C. D. Hooft Graafland

Consul of the Netherlands

I am keenly aware of the honor of being present at the ceremony of dedicating, in this impressive building which houses the International Surgeons' Hall of Fame, four rooms devoted to the countries of France, Mexico, Spain and the Netherlands. In each of these countries the International College of Surgeons maintains an active and influential national Section which contributes significantly to the science and art of surgery and therefore to the well-being of mankind.

I was very pleased to see the beautiful room which was assigned to my country and that in this room there was proof of the contribution which the Netherlands has been making through the centuries in the field of surgery.

The idea and the reality of the Surgeons' Hall of Fame and the idea and the reality of the International College of Surgeons are of utmost importance in the world today, for it is urgent that men of great knowledge get together and discuss subjects of mutual interest. The result of this can be only that the peoples of the world are benefited, and, at the same time, that the ties of understanding and friendship between our countries are strengthened.

I hope and trust that the tremendous work which this organization is doing will continue to meet with great success.

French Room

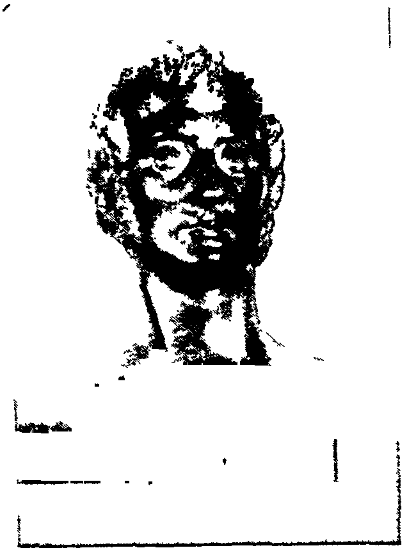
EXHIBIT SPONSORED BY FRENCH MINISTRY OF HEALTH RECREATES BRILLIANT PERIOD OF MILITARY SURGERY

M. Jean Béliard, Consul General of France in Chicago; Dr. Max Thorek, Founder and Secretary-General of the International College of Surgeons; Mlle. Elisabeth Lesecq, Secretary to M. Chenot, Minister of Public Health of the Republic of France, and Dr. Henry W. Meyerding, President of the International College of Surgeons

The French exhibit is an exceedingly valuable collection of original documents, instruments and memorabilia going back more than three hundred years, material gathered from national archives, museums and military hospitals.

It is, furthermore, full of fascinating human interest, for it deals with the intimate details of daily living of such historic persons as Louis XIV and Marie Antoinette, Napoleon and Marie Louise, Baron Larrey and other famous French surgeons.

A soldier killed at Waterloo whose skull is part of the exhibit, with a bullet still lodged in its temporal bone, bears witness to the lethal quality of other than atomic weapons.



Bust
Marie Francois Xavier Bichat
1771-1802
French Anatomist and Physiologist

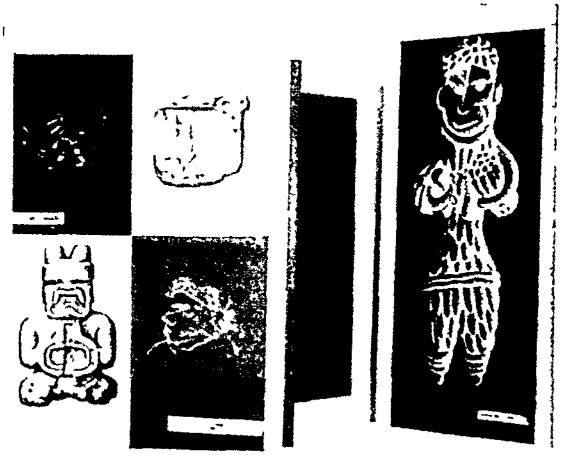
Bust
Paul Lecene
Gift of
Prof. Gaudart d'Allaines

Models of horse-drawn ambulances and mobile hospitals used during the Napoleonic Wars and bullet-riddled skulls found at Waterloo

Photograph of Hospital de Jesus, founded in 1524

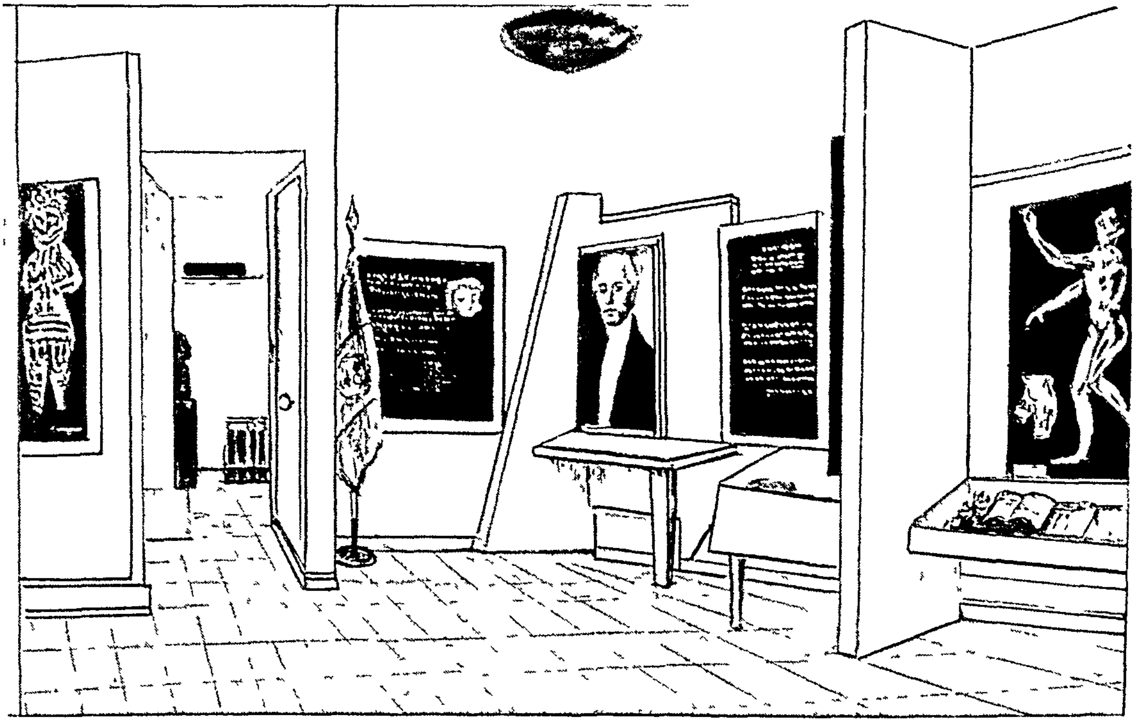
Mexican Room

Created Through the Vision and the Effort of Dr. Mario Gonzales-Ulloa and his collaborators

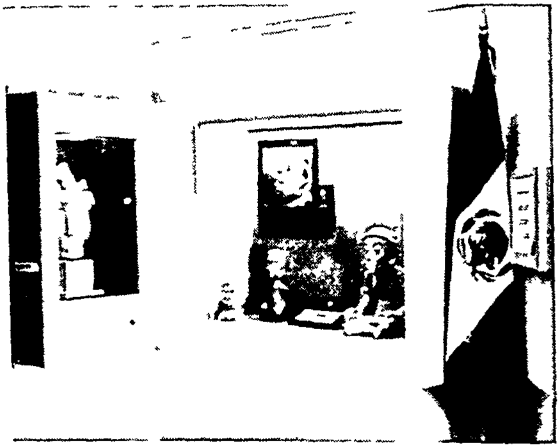


Artifacts illustrating pre-Columbian medicine

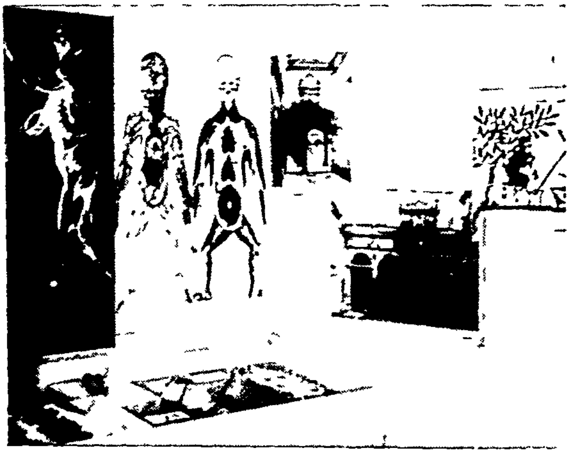
The Mexican room is a sensitive exposition of that very special mingling of past and present that is characteristic of much of Mexican art. Research, historical synthesis and museography for the exhibit were done by **Dr. Daniel F. Rubín de la Borbolla**, with the assistance of several museums and institutions of higher learn-



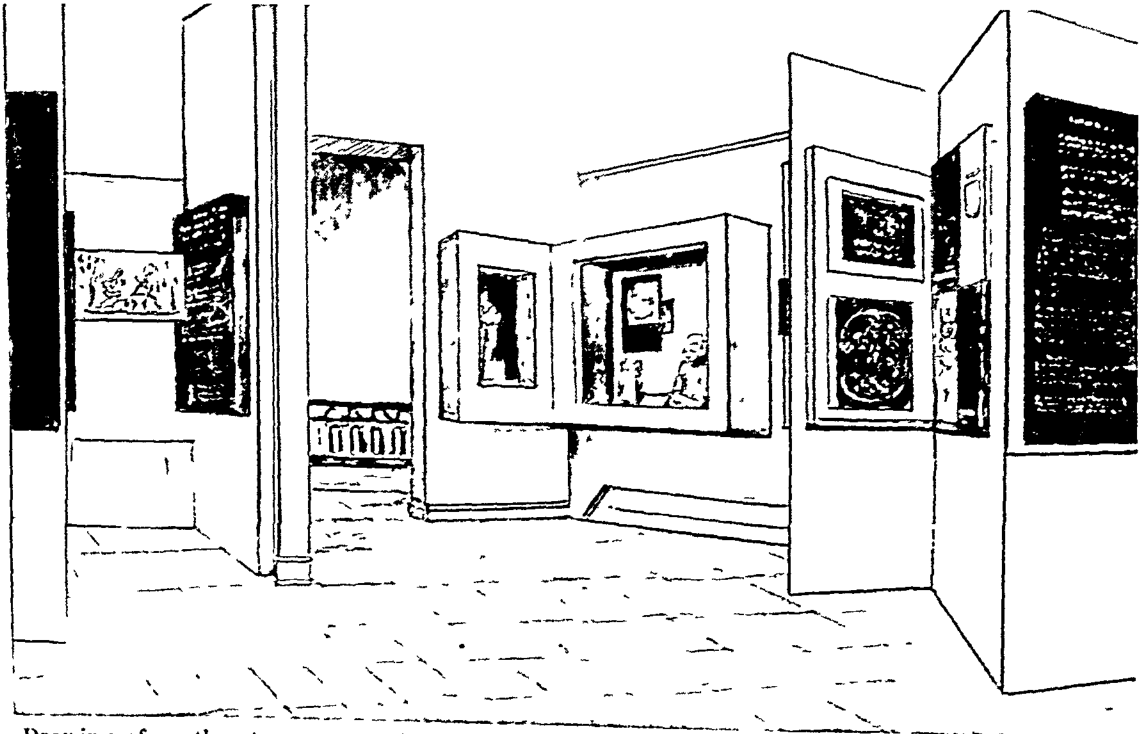
Drawing of southwest corner: Portrait in the center is that of Valentin Gomez Farias (1785-1858) ing and the aid of numerous members and friends of the Mexican Section of the International College of Surgeons. The room was designed with the scrupulosity of the scholar and the sure touch of the artist. The judiciously selected examples of the prehistoric, even the archaic, and their juxtaposition with post-Columbian influences, communicate an electrifying sense of authenticity. The Mexican room is a highly convincing exposition of the essential American genius for synthesis of the diverse and the creation of a mighty force moving into the future.



Case containing archaic and Maya figurines and skulls indicating surgical intervention, 3000 B.C.



Early European anatomical drawings contrasted with figures used by Indians for medical treatment



Drawing of northeast corner, at the entrance of which there is a spirited reproduction of Teocalli of Tenoxtillan y Tlazolteotl, goddess of medicine

Spanish Room

MAGNIFICENT MURALS PRESENT PANORAMA OF SPANISH SURGERY

West wall: center depicts martyrdom of Servetus; at left Alejandro San Martin performs an arteriovenous anastomosis of the femoral vessels (1901), and at right Romero performs a pericardiotomy

An intriguing contrast in mood is offered by the Spanish room, most noteworthy for its magnificent murals. Executed by Sr. F. Escriva of Madrid, without stultifying literalism and free from gratuitous distortion, they present a readily understandable story of the age-long development of surgery in Spain. The paintings are full of drama and poetic insight into historic events.

In the center of the room is a model of a thoroughly modern hospital, epitome of the progressive scientific spirit which permeates surgery in Spain.

East wall: Pablo Obispo de Merida (Cent. V) performing Cesarean section; Corral y Oña (1807-1882) performing first vaginal Cesarean section; Francisco Diaz (Cent. XVI) describing urethrotomy he has performed and the urethrotome he employed, and Gibernat (1734-1816), founder of Spanish Royal College of Surgeons, demonstrating to John Hunter his operation for femoral hernia

South wall: Bartolome Hidalgo de Agüero (1530-1597) practicing the excision of margins of wounds in healthy tissue in treating incised wounds; Dionysio Daza Chacon employing asepsis in treatment of arquebus wounds, a method he described in his "Theory and Practice of Surgery" (1544); Queen Isabel the Catholic founding Spain's first military hospital (1484), and the Balmis Expedition (1803) introducing and popularizing anti-smallpox vaccination in America

North wall: Translators of Toledo, who rendered into Latin the Greco-Roman works of the Arabians; Andres Alcazar (Cent. XVI), inventor of the trephine with shoulder and separable drill; Cristobal de Montemayor (Cent. XVI), inventor of the burr or mediolo for the trephine; figure symbolic of the founding of the first college of surgery (Cadiz, 1748), and a group of eminent nineteenth-century surgeons, F. Rubio, S. Cardenal, E. Gutierrez, J. Rivera, J. Creus, R. Lozano, D. de Argumosa and Sanchez Toca

Netherlands Room

BEAUTY, ORDER AND SURGICAL HISTORY

South wall: in the center a handsome reproduction of Rembrandt's famous painting of the Anatomical Lecture by Dr. Nicolaes Tulp; at one side an interesting grouping of photographs, engravings, etc., concerning Andreas Vesalius (born at Brussels in 1514 and died at Zante in 1564), and on the other side manuscripts and photographs relating to Adriaan Helvetius, Willem Ten Rhijne and others

The comprehensive, perfectly balanced, amply documented, learnedly assembled Netherlands exhibit is a joy for the museum enthusiast and the student of the history of much beside surgery. The specialist revels in the wealth of corroborative information but even the tyro is delighted with the excellent reproductions of famous paintings, woodcuts, and engravings.

In a sense, the room is a shrine to the lucid, meticulous and intellectual mentality of the scientific men of the Netherlands, with their innate artistic aptitude. The room is a repository of much that is intrinsically beautiful and humanistically, as well as historically and scientifically, significant. Its organization is a marvel to visitors. It conveys a sense of completeness and of justice to the subject.

Bust
Herman Boerhaave
1668-1738

Bust
Petrus Camper
1722-1789

North wall: largely given over to a fascinating collection of memorabilia connected with Antoni Van Leeuwenhoek and to *photographs of some later contributors to the development of surgery*

Hall of Immortals: Dr. Max Thorek welcoming participants in Second World Conference on Medical Education

Medical Educators Tour Hall of Fame

It is accepted procedure for visitors to Chicago who are at all interested in medicine to include the International Surgeons' Hall of Fame in their tour of outstanding institutions. The guest book in the reception room of the Hall of Fame therefore is an excellent index of what is going on in the city, and whenever there is a meeting or a conference or a congress of medical men, the signatures reflect the character of the participants.

Some very interesting entries were made during the week of August 31-September 4, 1959, while the Second World Conference on Medical Education was in session.

The Conference was presided over by **Raymond B. Allen,** M.A., M.B., M.D., Ph.D., F.I.C.S. (Hon.), chancellor of the University of California in Los Angeles, whose presidential address, *Medicine—A Life-long Study,* was the opening speech of the Conference and set the keynote for all the sessions.

On the afternoon of Thursday, September 3, the International College of Surgeons held an informal open house and reception for the participants of the Conference, many of whom were Fellows of the College. It was an internationally representative group of medical educators that assembled in the Hall of Immortals. They were greeted warmly by Dr. Max Thorek and were conducted on a tour of the various exhibition rooms.

Taken at random, some of the entries in the guest book included:

Dozent Dr. P. Fuchsig, F.I.C.S., the University of Vienna, Austria
Prof. E. N. MacDermott, F.I.C.S., Galway, Ireland
Dr. Ali, F.I.C.S., Karachi, Pakistan
Dr. Soedjono Djoened Poesponegoro, Djakarta, Indonesia
Prof. Dr. Josef Houstek, Prague, Czechoslovakia
Dr. C. L. Theweri, Bombay, India
Dr. Jehan Shah Saleh, Teheran, Iran
Dr. M. H. Adib, Teheran, Iran
Prof. Mohamed A. Abbasy, Dean, Faculty of Medicine, Alexandria, Egypt
Dr. Georges J. M. Mouthon, Paris, France
Dr. Americo Serra, Ponce, Puerto Rico
Prof. Dr. Newton Teofilo Gonçalves, F.I.C.S., Medical Faculty, Ceara University, Fortaleza, Brazil
Dr. Haroldo Juçaba, Fortaleza, Brazil
Dr. José E. Rechany, Santurce, Puerto Rico
Dr. Stuart N. Gardner, Marblehead, Massachusetts
Dr. Ahmet Rasim Onat, Istanbul, Turkey
Dr. Dag Knutson, Stockholm, Sweden
Prof. Francisco Obregón Jaraba, Cartagena, Colombia
Dr. M. L. Kashetra Snidvongs, Bangkok, Thailand

Dr. José Fahardo, University of San Carlos School of Medicine, Guatemala City, Guatemala

Dr. A. P. Mittra, New Delhi, India

Prof. Joseph Galea, Voletta, Malta

Prof. William G. Slate, University of Illinois Medical School, Chicago

Dr. N. Ameli, F.I.C.S., Teheran, Iran

Dr. Hans von Leden, Chicago

Dr. Alberto Tafur-Villalobos, of Bogota, Colombia, at present residing in Milton, Massachusetts

Dr. Ethel Fanson, Pasadena, California

Prof. Toshio Kurokawa, President of Tohoku University, Japan

Dr. Gilberto Espinosa Vera, Puebla, Mexico

Dr. Mentor Tijerina de la Garza, Monterrey, Mexico

Dr. Herbert Strube, Neuwied am Rhein, Germany

Dr. Hisazumi Miyake, Kyushu University, Japan

Dr. Munenori Enjoji, Kyushu University, Japan

Dr. Chikataro Togari, Nagoya, Japan

Dr. Zabih Ghorban, Chancellor of Shiraz University and Dean of its Medical College, Iran

Dr. H. L. Harrell, Ocala, Florida

Dr. J. Joncheres, F.I.C.S., Saintes, France

Dr. J. G. McCrie, Dean of the Faculty of Medicine, the University of Sheffield, England

Dr. H. M. Owen, the University of Sydney, Australia

Dr. N. H. Gosse, Halifax, Canada

Prof. Grujica Zarkovic, Medical Faculty, University of Sarajevo, Yugoslavia

Dr. R. J. Carreon, Jr., Los Angeles, California

Dr. Luis G. Forero, Bogota, Colombia

Dr. Smai Chandavimol, Bangkok, Thailand

Dr. Fumio Yamashita, Michael Reese Hospital, Chicago

Dr. George B. Callahan, Waukegan, Illinois

Lady Whitly of England

Dr. Otto Leuch, Zurich, Switzerland

Prof. H. T. Chaglassian, American University, Beirut, Lebanon, at present residing in Washington, D. C.

The list of guests could be several times longer were it not, as one of the Hall of Fame curators proudly boasted, "We have pages and pages of fascinating signatures, all of them completely illegible."

Doctors will be doctors. To each his individualistic signature is an expression of his personality and we respect it as such. But it makes reporting difficult.

However, it was a great party, and the International College of Surgeons was happy to receive the delegates to the Second World Conference on Medical Education, and to express its admiration and respect for the conference's momentous achievements.

Visiting group photographed in front of International Surgeons' Hall of Fame

Comments by the Founder

THOUGHTS FOR THANKSGIVING

Dr. Max Thorek

As I planned this issue of the *Bulletin,* I became aware that many of the events it records had taken place or were about to take place in the International Surgeons' Hall of Fame. The more I thought about the matter, the happier I became.

Yes, the Hall of Fame has become the center of varied activities. The handsome and dignified structure lends meaning to every meeting, every lecture, every social and educational endeavor of the College that is held within its magnificently proportioned walls. The Hall, it is true, is primarily a repository for priceless documents and memorabilia comprehensively illuminating the long perspectives of surgical arts and sciences. But in addition it has become a nucleus for the dissemination of the fascinating lore that constitutes the history of surgery.

All this I had foreseen long ago. All the potential was there even as I first beheld in my mind's eye the idea of an International Surgeons' Hall of Fame. Sometimes, however, ideas, no matter how happily conceived, sadly die aborning or wither away in puny infancy. But not this baby! It had vitality. It had promise. It had fortitude. And it had a quality I can characterize only as appealing.

It appealed to the imagination.

"Here I am," it said, "an idea.

"An idea is subject to metamorphosis. It can take many shapes. It can function in many ways. Nourish me. Guide me. And watch me grow."

We nourished it. We guided it. We were so busy nourishing it and guiding it that we were only subconsciously aware that it was growing.

But now, suddenly, we know that it has come of age.

During the week of the Twenty-Fourth Annual Congress of the North American Federation of the International College of Surgeons the Hall of Fame was the Mecca to which congressists came to be taken on a progression of visits to room after room.

Each room is like a chapter in a book. Fascinated, we watch the plot unfold. We wonder at the antiquity of man's first attempt to mend the broken arm, rid the body of morbidity by excision of the festering sore, even explore, with meagerest tools but stoutest courage, the injured brain itself! The centuries, the millennia, spread their scroll before us. A surgeon, compassionate, determined to ease excruciating pain, and curious as a cat or a four-year-old, for curiosity is the germinal cell of knowledge, grasps, literally as well as figuratively, at a straw, and in his hands the straw becomes an instrument of healing. The straws accumulate. The surgeon has laboratories for diagnosis, operating rooms to work in, and refinements of medical care for his patient. Human life is prolonged; pain, to an unprecedented degree, is controlled and mitigated, and the surgeon still is not satisfied. He continues to probe and to look about for some likely-looking straws coming his way.

The visitor is enchanted, and, if he is a surgeon or a surgical specialist or a student, he is inspired.

So it was with those who visited the Hall of Fame during the Congress.

Even before the Congress was formally called into session, however, the Hall of Fame was the scene of the ceremonial dedication of the French, Mexican, Spanish and Netherlands rooms. Not only was the Hall of Immortals crowded to capacity with standees wedged between the heroic figures for which it is named, but the adjoining rooms too were filled by an audience content to participate even at a distance in the pleasure of the occasion.

It was a happy day for me. Friends of many years were about me, dear friends who shared my enthusiasm and my labors and with whom I now was privileged to share this hour of fulfillment. The International Surgeons' Hall of Fame, which, in terms of time through which great institutions customarily grow, not long ago had been only an idea, now was a reality. The week before it had been the scene of a reception for the distinguished participants in the Second World Conference on Medical Education. Soon this very room would see the inauguration of the Fourth Lecture Series of the School of the History of Surgery and Related Sciences. Soon, too, the great medical schools of Chicago would open their fall sessions and students would begin to come individually or in groups and marvel as they grasped the significance of the exhibits—the breadth of the international viewpoint—the depth of the penetration into time.

What, at that moment of the dedication, could I say? What can I say now? I thanked all those, even as I thank them now, who selflessly and devotedly, in all the Sections of the College, had made my dreams come true. I thanked, even as I continue to thank, very humbly, that Destiny which has permitted me to live among those I love and together with them rejoice over the ingathering of the fruit of my own sowing.

Max Thorek

Among those who arrived early for the dedication ceremonies and paused at the entrance to the Surgeons' Hall of Fame, were M. Béliard, Mlle. Lesecq, Prof. Creyssel, Ambassador Carlos Darío Ojeda, Sra. Gonzales-Ulloa, Dr. Gonzales-Ulloa, Dr. Izquierdo, Dr. Meyerding, Prof. de la Peña, Mme. Darget, Prof. Darget, Dr. Thorek, Mr. Graafland and Dr. Ross T. McIntire

FRANCISCO GRAÑA
M.D., F.A.C.S., F.I.C.S. (Hon.)
1878-1959

From a Portrait at the International College of Surgeons, Chicago, Illinois

In Memoriam

FRANCISCO GRAÑA
M.D., F.A.C.S., F.I.C.S. (Hon.)

President, Peruvian Section
Past-President, International College of Surgeons
1878-1959

Genius is a lonely voice that speaks in behalf of a people, a race, or nature itself.

So wrote Francisco Graña, M.D., F.A.C.S., F.I.C.S. (Hon.), of Lima, Peru, of some ancient men of science and of surgery who were the carriers of the accumulated knowledge of the ages.

Don Pancho, for that is the name which, among friends, pleased Dr. Graña best, could have known the meaning of loneliness only intuitively and sympathetically, for he himself was the most social of men. Yet his voice, too, spoke in behalf of a people, a race, and nature itself.

Cosmopolitan to the core, at home in all the world's centers, sophisticated in the true sense of the word, he carried himself proudly as the inheritor of the culture of his own race and his own people. Surgeon and scientist, aware of, and himself contributing to, the ferment of growth in modern surgical science, he yet had an eye and an ear for the old past. There he discovered that close kinship to nature which delighted him, and he loved to identify himself even with the prehistoric, for the genius of his personality spoke not only in behalf of his time but of all time.

He was happy in the complexity of his cultural heritage. He revered Spanish learning and found joy in the Andalusian strain in his blood. He was proud of the hard-won independence of Peru and of the part his ancestors had played in that heroic movement.

He loved Lima, his native city, with a love that was more passionate than filial. His love was ardently requited.

So, early in October, when it was known that Don Pancho was ill, concern was general and grave, and, finally, on Sunday, October 18, 1959, when word came that he had died, the entire city mourned her beloved and illustrious son. Men and women and children of all classes of society felt themselves personally bereaved.

A Lifetime Crowded with Achievement and Honors

Born in Lima in 1878, son of Don Waldo Graña and Doña Andres de los Reyes, Francisco Graña was educated at the *Convictorio Peruano de Lima* and at the University of San Marcos. He received his B.A. degree in 1900, his medico-surgical degree in 1903, and his full doctorate in medicine in 1908.

From 1903 to 1925 he served as a member of the board of public health and editor of the *Boletín de Sanidad.* In 1904 he was appointed surgeon to the *Hospital Dos de Mayo;* in 1906 he became chief of medical service at the Home for Orphans, and established its children's clinic. In 1910, during the conflict with Ecuador, he was put in charge of Peru's main military hospital.

He joined the Faculty of Medicine of the University of Lima in 1908; in 1914 became full professor, first of surgical pathology and then of pediatric and of orthopedic surgery. He was chief of the Guadalupe Hospital in Callao. He was president of the central medical committee of the *Caja Nacional de Seguro Social Obrero,* organized its hospital and served it as its chief of staff.

At one time, for three years, after the fall of a government with which he had been associated, he practiced surgery in Panama, but then returned to his native city of Lima and assumed unquestioned leadership in numerous phases of surgical, health and medical work. Time and again he served as head of various organizations, private and public, retiring from office perhaps, but in name only, for he retained his interest and frequently was called upon for guidance and advice.

He represented Peru and Peruvian surgico-medical organizations at numerous important international congresses. He might have been called Peruvian surgical ambassador-at-large. In turn, he brought back to Peru all the modern advances in surgical science and technic.

Leading Fellow in International College of Surgeons

It is easy to understand how, with his distinguished professional status and world outlook, Dr. Graña should have been among the first of that great company of eminent surgeons of the world who almost spontaneously responded to the call and enlisted in the ranks of the International College of Surgeons. He was enamored of its vision and devoted to its cause. He assumed task after task and responsibility after responsibility. In appreciation, the College conferred upon him one of its earliest Honorary Fellowships.

In 1946, at the invitation of the Peruvian Government, the Fifth International Assembly of the International College of Surgeons was held in Lima under the general chairmanship of Dr. Graña, and proved to be a brilliant success. Dr. Graña was then chosen president-elect of the College.

In 1948, at the great Sixth International Assembly held in Rome, Dr. Graña was elected president and as such served until 1950, presiding with competence and dignity over the Seventh International Assembly held in Buenos Aires, Argentina.

Subsequently, Dr. Graña accepted the presidency of the Peruvian Section of the College and remained an honored member of the International Board of Governors.

Interest in Archeology Linked to Surgeons' Hall of Fame

He was enthusiastic about the International Surgeons' Hall of Fame. The Peruvian room, with its fascinating exhibit of pre-Hispanic surgery in Peru, was largely his own personal contribution. He had long been a student of the instruments, skulls and other relics found at the sites of prehistoric settlements. Together with Dr. Esteban Rocca, F.I.C.S., he used the museum instruments in autopsies and became accustomed to them. Finally, convinced that they were as good if not better than modern ones for the purpose, under most favorable conditions of asepsis and with the aid of modern anesthesia, the two actually performed a completely successful brain operation upon a patient for the removal of a blood clot, using bronze chisels and obsidian saws which were two thousand years old when Pizarro conquered Peru.

Man of Many Gifts and an Enthusiast for Life

Graña's interests and gifts were multiform. He wrote well. He was an orator. He was an athlete. He had a sense for the plastic arts. He loved music and was a connoisseur—and a practitioner—of the dance. He was a famous *aficionado* of the *corrida de toros.*

Stories concerning his colorful personality are legion. He was sturdy physically and endowed with mental strength and agility. He was a wonderful raconteur, and, with his own highly stylized version of the *joie de vivre,* he was a delightful companion, ever at ease, whether it were among princes, scholars, bullfighters or muleteers.

But all that was secondary. Primarily Dr. Graña was a great surgeon.

In 1953, all of Peru's intellectual and scientific world united in a golden jubilee celebration of the fiftieth anniversary of the beginning of Prof. Graña's professional career. Among the many honors that were bestowed upon him was the decoration of the Order of Merit for Distinguished Service, in the degree of *Gran Oficial,* from the municipality of Lima. At a banquet held in his honor, messages were read that recounted his achievements, praised his wisdom and his generosity, and conveyed to him the love of a multitude of friends throughout the world.

So it was also at the last ceremonial in his honor. Among the crowds that reverently lined the way of the funeral cortege, in the long procession of those who paid homage at his bier, in the wreaths and floral crosses about his coffin, in the many tributes read to his memory, in the cables which reached the bereaved family and his associates, the true measure of the man Francisco Graña was revealed. He was of that race of men, heroic and human, joyous and joy-giving, which is called blessed.

To Dr. Graña's family and his associates, the officers and members of the Board of Governors beg to extend their heartfelt condolences.

M. T.

Excerpts From a Letter

. . . Ha muerto uno de los hombres más extraordinarios. Pancho Graña tenía una personalidad magnética, atributos superiores en su sentido de la vida, era idealista y altamente susceptible a la selección de espíritu Para Lima encarnaba su símbolo representativo, era el apasionado amador de sus bellas tradiciones, de su alma criolla y de su legado hispánico.

Fué tan dinámico que equivalía en su empuje y acción ejecutiva a centenares de hombres reunidos. Para nostros aquí, era Mentor y Rector, amigo incomparable. Lima se commocionó con su muerte; ha sido un día de duelo para pobres y poderosos. Pancho era único! Nada ni nadie lo remplazará.

Estamos transidos de dolor y al evocar estos momentos créame admirable amigo que pienso que hay mucha injusticia en el destino de los buenos. Aunque Pancho tenía más de ochenta años, pero su fortaleza espiritual y física estaba todavía en su apogeo.

No obstante mi angustia, llevé la palabra del Colegio—Seccíon Peruana—al Cementario. En ella mencioné . . . el entusiasmo y la cooperación de don Pancho. Dentro de tres días nos reuniremos para preparar una sesión especial de homenaje a su memoria.

Alberto Sabogal
SECRETARY
PERUVIAN SECTION

Dr. Alberto Sabogal, secretary of the Peruvian Section of the International College of Surgeons, represented the College at the final rites for Dr. Graña. His address will appear in the December issue of the Bulletin.

Post-Congress International Conference of Surgeons: Tel-Aviv—Jerusalem, Israel May 21-23, 1960

Mr. Israel Barzilai
Minister of Health
State of Israel

His Excellency, **Israel Barzilai**, the Minister of Health of the State of Israel, and the Israel Section of the International College of Surgeons have formally invited the International College of Surgeons to attend an International Conference of Surgeons to be held in Tel Aviv and Jerusalem May 21-23, 1960.

The Israel Conference will follow the Twelfth Biennial International Congress of the International College of Surgeons in Rome (May 15-18, 1960).

The Israel Conference will be held under the auspices of the Ministry of Health. The Israel Section of the International College of Surgeons will co-ordinate scientific and clinical sessions to provide a program of maximum interest. Special significance will be attached to the surgical and medical problems of young nations, in solving which Israel's experience should prove of value.

Apart from scheduled sessions, visits to Israel's leading hospitals and health clinics will be arranged.

A reception in honor of the visiting surgeons will be given by the Minister of Health, and visitors will be introduced to Israel's national leaders. The President of Israel indicates he will be happy to grant an audience to the participants in the Conference.

For details on the Israel Conference write to:

Secretariat
International College of Surgeons
1516 Lake Shore Drive, Chicago, Illinois
or
International Travel Service, Inc.
119 South State Street, Chicago, Illinois

Israel is concerned with the health of its children

Now that it's November, don't forget to remember . . .

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ROME — MAY 15-18, 1960

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MAY 21-23, 1960

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His Excellency the Minister of Health of the State of Israel
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In Brief . . .

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Including presentation of patients, operations and discussion of the results of treatment

FEBRUARY 1-15, 1960

Write: Director, Departmento de Angiología, Instituto Policlínico, Platón 21, Barcelona, Spain

From the Executive Director's Notebook

AUTUMN ACTIVITIES

Dr. Ross T. McIntire

On September 28, I flew to Chattanooga, Tennessee, to take part in the meeting of the Tennessee Valley Medical Assembly. This is one of the most successful medical meetings that I know of in our country. The founder of this meeting is Dr. William G. Stephenson, who also happens to be the state regent for the International College of Surgeons. Dr. Stephenson has made it a practice to hold the annual meeting of the Tennessee Surgical Section of the International College of Surgeons during the Tennessee Valley Medical Assembly meeting. Very often, speakers appear on both programs.

The 1959 meeting was an outstanding success and brought to Chattanooga medical men from over the entire United States. The president-elect of the American Medical Association, Dr. E. Vincent Askey, was a featured speaker.

The annual meeting of our state section was held at the Read House on Monday, September 28. It was my privilege to address this meeting, setting forth the various programs that are being projected in the United States and in various parts of the world for the year 1960. Guests at this meeting were Dr. Askey; Dr. Lyon H. Appleby, vice-president of the International College of Surgeons and past-president of the Canadian Section; Dr. Chester Guy and Dr. Morris Fishbein, both of Chicago.

Following the luncheon, Dr. Guy M. Francis of Chattanooga was elected the President of the Tennessee State Surgical Section of the International College of Surgeons for the year 1959-1960. Dr. Francis is a very dynamic individual and has been of great assistance to Dr. Stephenson in the successful planning and production of the Tennessee Valley Medical Assembly program.

Immediately following this meeting, I went to Los Angeles, California, where I was a guest speaker at a meeting of the Governor's Committee on Rehabilitation and Employment of the Handicapped. This was a luncheon meeting of some six hundred men and women who are interested in rehabilitation. It was my privilege to make the presentation of awards for the President's Committee on Employment of the Physically Handicapped to the Commissioners of Los Angeles County for their strong support of rehabilitation and the employment of the handicapped—and to the President of Air Research Corporation for its outstanding contribution in the field of employment of the handicapped.

The luncheon featured a number of women who are prominent in the motion picture field. Two of our Fellows, Dr. Joseph M. de los Reyes and Dr. John Aldes, are members of the Governor's Committee for the State of California.

The time following my return to Chicago has been taken up in planning a rehabilitation program for the Rome meeting. I am glad to say that we have acceptances from outstanding men in Europe, as well as from our own country.

Looking ahead to 1960, we have a meeting planned for September 28 which is to be a regional meeting of the Manitoba Surgical Section, of which **Dr. Samuel Peikoff** is Regent. This meeting will be held at Winnipeg, Canada. It is my hope that there will be a fine attendance from the Great Lakes Section of the United States. We should do all possible to make this meeting an exceptional one, for we have always received excellent cooperation from the surgeons of Manitoba and from Winnipeg itself.

In the past few weeks, we have received letters from the various surgical residents who were guests at the September Congress. Their comments are very refreshing. In view of the success of this venture, it is certain that we will repeat this program of bringing in surgical residents from various parts of the country for our national meetings.

The next meeting of importance will be held November 22-24, 1959, in Las Vegas, Nevada, at the Las Vegas Stardust Hotel and Coliseum. A number of the national officers will be present. In view of the location of this meeting, I am sure that many of our Fellows in the East who have not visited Nevada would find this an attractive opportunity to do so. The Southern California Surgical Section hopes for a very fine attendance, and from all indications this should be a very interesting meeting.

Ross T. McIntire

DR. YANOVER HONORED BY PRESIDENT

Dr. Robert R. Yanover, F.I.C.S., chairman of the Medical Advisory Board of Abilities, Inc., Albertson, New York, received on September 3, 1959, a Presidential Citation for his contribution to the advancement of the disabled. Abilities, Inc., with which Dr. Yanover has been associated since its founding seven years ago, is an electronics manufacturing firm employing only disabled persons.

AEROSPACE MEDICAL CENTER

The U. S. Air Force has established an aerospace medical center at Brooks Air Force Base, San Antonio, Texas.

Major General O. K. Niess, Air Force surgeon general, has announced that the medical center would consolidate and serve as headquarters for existing air force medical service facilities in the area and enable the service to provide greater support to the Air Force in aviation and space medicine.

A NOTE OF SYMPATHY

The officers and members of the Int [illegible] national College of Surgeons wish to [illegible] tend their sincere [illegible] thy to Dr. [illegible] T. Case, F.A.C [illegible] of Santa B [illegible] bara, Califor [illegible] death, [illegible] August 10, 195 [illegible] belo [illegible] wife, Helena M [illegible]

Dr. and M [illegible] go for many years [illegible] distinguished [illegible] on and radiolo [illegible] d of the department of radiology at [illegible] western University Medical School. [illegible] his retirement, Dr. Case and Mrs. [illegible] ved to Calif [illegible] Dr. Case [illegible] born and [illegible] his early [illegible] cal [illegible] se had [illegible] England. [illegible] red wit [illegible] his [illegible] otion [illegible] and [illegible] ted in [illegible] tiv- [illegible]

United States Section

THE PRESIDENT'S MESSAGE

Report to the Executive Council

Dr. Edward L. Compere

During the year in which I have had the high honor to serve as president of the United States Section of the International College of Surgeons, I have traveled many thousands of miles in the interest of the College and attended meetings and conferences with Fellows and Members in every section of the country. January found me in Florida, March in California, May in the Catskill Mountains of New York State, and other months in various cities all over the country.

The meetings and the fellowship in each area were all enjoyable, and in each instance through personal conversation I tried to instill the cement of friendship. I sought for means to bind the membership into a concerted effort to promote the objectives of the International College of Surgeons and advance the standards of surgery in the United States and around the world.

Events of the Year

The Section for Industrial Surgery has become the Section for the Treatment of Trauma. An excellent nucleus of surgeons and physiatrists from which to create a Section for Rehabilitation is ready to proceed with the formulation of definite plans.

More than six hundred new members have been approved for the United States Section. More than five hundred and fifty candidates will be inducted at the Convocation Thursday evening, September 17. Nearly all of these candidates have been certified by one of the American Boards of Surgery, are Fellows of the American College of Surgeons, or both. This is a group of new members of whom we can be very proud.

Those who have worried because they thought that the median age of the Fellows of the College was too high can take comfort in the fact that more than a hundred applications for Junior membership have been received during the past three weeks and new ones are coming in every day.

A personal letter over my signature was prepared and mailed from my office, with the aid of secretarial help supplied by the College central office, to approximately six thousand five hundred surgical residents, inviting them to attend the Congress. An announcement of the instructional courses which are sponsored by the Section for Orthopedic Surgery, was mailed to two thousand five hundred orthopedic and general surgery residents, two thousand two hundred industrial surgeons and two thousand seven hundred orthopedic surgeons.

This is the text of the report presented by Dr. Edward L. Compere, president of the United States Section of the International College of Surgeons, for the year 1958-1959, to the Executive Council of the Section at its meeting on September 13, 1959, at the College Home, 1516 Lake Shore Drive, Chicago.

Because of the generosity of a friend of the College we were able to invite each of ten distinguished professors of surgery to nominate a resident, who in turn was invited to attend this Congress as a special guest of the president. Nine guest residents and two wives are here. Two residents are presenting scientific papers before a session of their particular surgical specialty.

Throughout this past year, I have repeatedly tried to resolve any misunderstanding which may have existed anywhere about this great surgical organization. I sincerely hope and believe that the truth has been made manifest to those who have been our detractors. I pray that in the year that lies ahead all ill will between groups or individual surgeons of this great nation will be dissipated and good will unite us all in our endeavors.

Edward L. Compere

Ophthalmology and Otorhinolaryngology Section Research Grant

Mr. Edward Schaeffer

The council of the section on ophthalmology and otorhinolaryngology of the International College of Surgeons, meeting on Monday, September 14, 1959, during the Congress of the North American Federation of the College, unanimously approved the recommendation of the committee on scientific work, and awarded its 1959-1960 research grant to **Mr. Edward Schaeffer**, a senior at Vanderbilt University School of Medicine, Nashville, Tennessee.

Mr. Schaeffer has an A.B. degree from Westminster College, Fulton, Missouri, and an M.S. degree from St. Louis University Graduate School. He is interested in entering the field of ophthalmology. He has published one paper: *Fiber Components of the Splanchnic Nerves,* Anat. Rec. 128:1, 1957.

Mr. Schaeffer will investigate chemical and histological effects of enzymes and steroids on anterior chamber hemorrhage. He has the sponsorship of **Dr. Samuel L. Clark**, professor and head of the department of anatomy, and **Dr. George W. Bounds, Jr.**, acting head of the department of ophthalmology.

Dr. Paul C. Craig, of Reading, Pennsylvania, is chairman of the ophthalmologic and otorhinolaryngologic section committee on scientific work.

Western Regional Meeting

Announcement has been made of the rogram to be presented at the Second Vestern Regional Meeting, November 22-4, in Las Vegas, Nevada.

Members of the American Academy of eneral Practice have been invited to enoy this exceptional program and provision as been made to accredit the meeting for ategory II. Dr. Leon O. Desimone, presilent of the California Academy of General Practice, will present a paper, *The Role of he General Practitioner in Surgery.*

Dr. Harry E. Bacon of Philadelphia, professor and head of the department of proctology at Temple University Medical Center and president-elect of the United States Section of the International College of Surgeons, will be a featured speaker, as also will be **Dr. Curtice Rosser** of Dallas, clinical professor of proctology and chairman of the division of proctology of the Southwestern Medical School of the University of Texas and past-president of the United States Section of the International College of Surgeons.

Dr. Philip Thorek of Chicago, associate professor of surgery at the University of Illinois College of Medicine and at the Cook County Graduate School of Medicine, will address the assembly. From Chicago, too, will come **Dr. Peter A. Rosi**, associate professor of surgery at Northwestern University Medical School and professor of surgery at Cook County Graduate School of Medicine, who capably organized the scientific program at the Twenty-Fourth Annual Congress of the North American Federation of the College in Chicago last September.

Other speakers and their topics will be:

Experiences with Some Unexpected Cardiovascular Difficulties Associated with Surgical Procedures
PAUL V. LEDBETTER, M.D., president of the Houston Heart Association

Submucous Lipoma of the Colon
HERBERT T. HAYES, M.D., professor of surgery and head of the department of proctology at Baylor University

Trauma to the Bile Ducts
A. JAMES MCALLISTER, M.D., professor of surgery at the University of Utah

Bleeding Esophageal Varices
M. JUDSON MACKBY, M.D., San Francisco, California

Carcinoma of the Paranasal Sinuses and Nasal Cavities
FREDERICK M. TURNBULL, JR., M.D., assistant professor of otolaryngology at the College of Medical Evangelists

Reconstruction of Chest Contour Following Mastectomy and Breast Augmentation
SEYMOUR L. ALBAN, M.D., HARRY ALBAN, M.D., and BERNARD COOPERMAN, M.D., Long Beach, California

Abdominal Aneurysms Simulating Ureteral Colic
ROBERT O. PEARMAN, M.D., San Luis Obispo, California

Analysis and Management of 142 Cases of Referred Otalgia
JOSEPH C. ELIA, M.D., Reno, Nevada

Surgical Aspects of Regional Ileitis
STANFORD ASCHERMAN, M.D., U.S.A.F.

Newer Concepts of Treatment of Chest Injuries
THOMAS KEYES, M.D., Salt Lake City, Utah

Spinal Fusion by the Intervertebral Body Technic
CHARLES HUTTER, M.D., Los Angeles, California

Film Presentation
A. R. ABARBANEL, M.D., Los Angeles, California

A New Surgical Approach for Relief of Intractable Urethritis and Cystitis in Women —preoperative and postoperative presentation of patients and an operative demonstration
ROBERT P. O'DONNELL, M.D., Las Vegas, Nevada

Dr. Frederick M. Turnbull, Jr., of Los Angeles, is secretary and treasurer and **Dr. J. Norman O'Neill**, also of Los Angeles, is chairman of the program committee.

Woman's Auxiliary

THE PRESIDENT'S MESSAGE

Reminiscence

Mrs. Park Niceley

I want first to be allowed to indulge in a bit of reminiscence, if I may, about our Annual Congress and the friendliness that prevailed throughout the meeting.

We ladies are indebted to the general chairman, **Mrs. Walter Cleveland Burket,** and her fine group, who planned the events and guided their course in such a highly satisfactory manner.

From the first morning that our Hospitality Room was opened, the chairman, **Mrs. Chester Trowbridge,** welcomed one and all with her gracious and soft-spoken manner. She was assisted each day by a group of the Auxiliary members serving as hostesses of the day. A warm and most attractive decor was created by the use of green-and-white striped tablecloths and a profusion of gay flowers arranged on each table. The meeting in such an informal atmosphere set a mood of cordiality and friendliness for our entire stay in Chicago.

We were once again privileged, during the first afternoon of the Congress, to be the guests of **Mrs. Max Thorek,** an honorary president of the Woman's Auxiliary, United States Section, and the beloved wife of Dr. Max Thorek, the founder of the International College of Surgeons. The tea was a delightful affair held in the Fellowship Room of the International College of Surgeons' Home, at 1516 Lake Shore Drive. The tea hour was highlighted by the presence of the wives of distinguished College Fellows from abroad. Among the ladies were **Mrs. Sten Axel Friberg** of Stockholm, Sweden, **Mme. Jean Creyssel** of Lyon and **Mme. Raymond Darget** of Bordeaux, France. A goodly number of the members of the Canadian Section Women's Auxiliary, led by their president, **Mrs. E. Karley Pinkerton,** added to the pleasure of the tea party.

A delightful program followed Tuesday's luncheon in the Mayflower Room of the Sheraton-Blackstone Hotel.

Wednesday, the annual meeting of the Auxiliary was held immediately following the brunch in the new Wabash Room of the Palmer House. The objectives and accomplishments of the Auxiliary were reviewed and it became evident that a feeling of deep interest permeated those who were present. Wednesday proved to be our fullest day of activity, for the evening brought the ever-popular Speidel social hour and the annual banquet.

We found the Guild Hall of the Ambassador East to be truly an architectural gem, and there, on the last day of the Congress, a gourmet's fare for our palate awaited us at luncheon.

The Convocation, always a colorful and

solemn affair, marked the close of our days in Chicago, but also opened the door of membership participation to some five hundred new members who were installed into the United States Section of the International College of Surgeons.

To the wife of each newly installed member, we extend a cordial invitation to join the Woman's Auxiliary. An application for membership appears below for your convenience.

Virginia Whisman Niceley

A STATEMENT OF PURPOSE

Read at Banquet of the North American Federation

MRS. EARL INGRAM CARR

Our aims are those of the College, our parent organization. Our projects are three —foreign exchange graduate scholarships, grants for research, the Hall of Fame.

These are the reasons we urge every woman here to join the Auxiliary. To subsidize the scholarship for one student for one year costs three thousand dollars and our only funds are the yearly dues of ten dollars per member. We have brought to this country a number of young men and I will read an excerpt from a letter from one of them. The letter was written as he was leaving Peter Bent Brigham Hospital for his own country.

"This year has been for me a great experience. I have become acquainted with American medicine, especially research, and have got to know many people. Friendships have been formed and memories created which will endure. I return a wiser man, and am sure that, with the passing of time, I will often think nostalgically of my year here.

"I would like to express my admiration of the Woman's Auxiliary for the work they are doing in sponsoring these scholarships. To take someone from Europe and introduce him to American culture is a truly international gesture and will do much to enhance the reputation of the College. It demonstrates to all that the Auxiliary is no mere social group attached to the College, but a vital and active part thereof.

"I earnestly hope that funds will be available to make these scholarships a permanent feature of your work."

And that is the end of the letter. Could there be a more eloquent plea?

Two research grants of one thousand dollars each have gone to a young American who is still in this city, and who has attained, through this assistance, important new knowledge of joint fluids.

These are just two of the fine young doctors we have been fortunate enough to help. We have a list of which we are proud.

We, the Woman's Auxiliary, need your interest and your participation. Speaking for the Board, I thank you for this opportunity to urge every Fellow of the College to be represented in the Auxiliary by some feminine member of his family.

I am interested in furthering the program of the Auxiliary to the International College of Surgeons. Enclosed is my check ($10.00 per member) covering membership(s) for the following:

NAME:

ADDRESS:

Make check payable to The Woman's Auxiliary, United States Section, International College of Surgeons, 1516 Lake Shore Drive, Chicago 10, Illinois.

Section News

BRAZIL

Surgical Weekend at Petrópolis

The Regional of Petrópolis was host to a highly successful surgical weekend, May 30-31, 1959. It was called a *Journey to Petrópolis,* and was held under the auspices of the Brazilian Section of the International College of Surgeons with the collaboration of the Regionals of the Distrito Federal, Niterói, and Juiz de Fóra. The Committee of Honor included:

Prof. Dr. Mário Degni, President of the Brazilian Section
Dr. Mário Pinotti, Minister of Health
Dr. Newton Guerra, Secretary of Health, State of Rio de Janeiro
Dr. Nelson de Sá Earp, Prefect of the Municipality of Petrópolis
Dr. Paulo Hervê, President of the Municipal Council of Petrópolis
Prof. Dr. Matheus Santamaria, President-elect of the Brazilian Section, International College of Surgeons
His Excellency, the Most Reverend Dom Manoel Pedro da Cunha Cintra, Patron of the Regional of Petrópolis of the International College of Surgeons
Dr. Silvio de Sousa Branco, President of the Professional Association of Dentistry of Petrópolis
Dr. Jayme Treiger, President of the Medical Society of Petrópolis
Dr. Arthur de Sá Earp Netto, Rector of the Catholic Faculties of Petrópolis.
Prof. Dr. Bernardo Moreira Garcez, President of the Distrito Federal Regional of the International College of Surgeons
Dr. Washington Rêgo Pinto, President of the Regional of Niteroi
Dr. Arlindo Falci, President of the Regional of Juiz de Fóra
Dr. Accácio de Sousa Branco, President of the Regional of Petrópolis

The Arrangements Committee was headed by Prof. Dr. Mario Degni and Dr. Accácio de Sousa Branco as chairmen. **Dr. Jorge Ferreira Machado** served as secretary general. The members were **Dr. Germano B. Bretz** and **Dr. Gervasio Cunha Goncalves.**

The meeting began with a ceremonial general assembly. Then it was divided into three simultaneous sessions. Two full days were devoted to scientific papers and discussions. It was not until late Sunday evening that, the last session ended, the participants met for a closing banquet.

Among those who participated in the scientific program were:

Prof. Dr. Mário Degni, São Paulo
Prof. Dr. Matheus Santamaria, São Paulo
Dr. Accácio de Sousa Branco, Petrópolis
Dr. Helson Cavalcânte
Sr. Jorge Machado Moreira, hospital architect, D. F.
Dr. Anyson Amado, D. F.
Nurse Edilburga Pereira, D. F.
Nurse Maria das Vitórias Correia de Andrade, D. F.
Dr. Alberto Andrés Junior, Juiz de Fóra
Dr. Arlindo Falci, Juiz de Fóra
Dr. Sérgio Kuntz, Petrópolis
Dr. Carlos Eugenio Taquechel, Petrópolis
Dr. Chekib Jorge Antoun, Petrópolis
Dr. Enrico Caruso, Petrópolis
Dr. Helio Silva, Petrópolis
Dr. Washington Rego Pinto, Niteroi
Dr. Jaime Birmann, Petrópolis
Dr. José Gabriel da Silva Carvalho, Petrópolis
Dr. Wanderley Nogueira da Silva, São Paulo
Dr. Geraldo Ramalho, Niteroi
Dr. Herbert Praxedes, Niteroi
Dr. Levy Madeira, Niteroi
Dr. Paulo Horta Barbosa, Niteroi
Dr. José Hilario, Rio de Janeiro
Dr. Edidio Guertzenstein, Rio de Janeiro
Dr. Ronald Alonso Costa, Rio de Janeiro
Dr. Tomaz Augusto Carneiro Leão, Rio de Janeiro
Dr. Paulo Rodrigues da Silva, Rio de Janeiro
Prof. Dr. Mário Monteiro, Niteroi
Dr. Walter Teixeria, Niteroi
Dr. Luiz Guarino, Niteroi
Dr. Evandro Freire, Niteroi

Prof. Alvaro Cumplido de Santana, São Paulo
Prof. Darcy Villela Itiberê, São Paulo
Prof. Bernardo Moreira Garcez, São Paulo
Dr. Alcebíades Salles, São Paulo
Prof. José Martins Costa, São Paulo
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Dr. Carlos Alberto Costa e Souza, Petrópolis
Dr. Clodomir Vasconçellos de Oliveira, Rio de Janeiro
Dr. M. Barreto Netto, Rio de Janeiro
Dr. J. B. Lima Noce, Rio de Janeiro
Dr. Ney Santos, Niteroi
Dr. Celso Ramos, Niteroi
Dr. Sérgio Teixeira, Niteroi
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Dr. Savino Gasparini Filho, Rio de Janeiro
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Dr. Oscar Rudge, Petrópolis
Dr. Jorge Faria, Petrópolis
Dr. Gestão Velloso, Petrópolis
Dr. Aldo Labronici, Petrópolis

ECUADOR

Inaugural Assembly an International Surgical Event

Welcoming committee meets United States visitors: Dr. R. Armijos, F.I.C.S.; Dr. José Molestina R., chairman of the coordinating committee; Dr. Harry E. Bacon of Philadelphia, president-elect of the United States Section; Dr. José Ramirez D., vice-president of the Ecuadorian Section; Dr. Francisco Rizzo V., treasurer of the Ecuadorian Section; Dr. Alexander Brunschwig of New York, vice-president of the International College of Surgeons, and Dr. Gabriel Panchana C., secretary of the Ecuadorian Section

With the presence and participation of distinguished surgeons from the United States, Bolivia, Peru, Colombia and Cuba, the formal Inaugural Assembly of the Ecuadorian Section of the International College of Surgeons took on the character of an international surgical congress.

The meeting was held in Guayaquil, September 30-October 4, 1959.

The Faculties of Medicine of the Universities of Quito, Cuenca and Guayaquil contributed their valuable cooperation and were officially represented at the meeting by their deans, respectively, **Dr. Miguel Aráuz, Dr. Leoncio Cordero** and **Dr. Francisco Rizzo. Dr. Antonio Parra,** rector of the University of Guayaquil, participated actively both personally and in his official capacity.

Recognition by the government of the importance of the occasion was evidenced by the presence of **Dr. Eduardo Ortega,** governor of the Province of Guayaquil and president-elect of the Ecuadorian Section of the International College of Surgeons; **Mr. Luis Robles,** mayor of Guayaquil; **Dr. Carlos Andrade M.,** mayor of Quito, and **Col. Zurita Paz y Miño,** military comman-

Dr. Eduardo Ortega M., governor of the Province of Guayaquil and president-elect of the Ecuadorian Section of the International College of Surgeons, with Dr. Gilberto Hinojose acting as interpreter, presents citations as diplomates (official grade) of the national Ecuadorian order Al Merito to Dr. Brunschwig and Dr. Bacon

der of the District. Mr. William Moreland, consul-general of the United States, attended the formal assemblies.

Non-Ecuadorians who participated in the scientific program included **Dr. Alexander Brunschwig** of New York, vice-president of the International College of Surgeons; **Dr. Harry E. Bacon** of Philadelphia, president-elect of the United States Section; **Dr. Enrique St. Loup** of La Paz, president of the Bolivian Section; **Dr. Alberto Sabogal** of Callao, secretary of the Peruvian Section; **Dr. Alfredo Sardiñas**, representing Cuba, and **Dr. Pedro E. Cruz** of Bogota, president of the Colombian Section. Also from Colombia came **Dr. José M. Barraquer**, distinguished ophthalmologist. **Dr. Reinaldo Tuckler** represented Nicaragua.

Drs. Brunschwig and Bacon participated actively in four of the scientific sessions. Dr. Bacon delivered featured lectures on *Surgical Treatment of Ulcerative Colitis and Its Complications* and on *Surgical Treatment of Cancer of the Colon and the Rectum—a Personal Review of 1900 Operative Cases.* Dr. Brunschwig in his special address dealt with *Surgery of Neoplasias of the Liver.*

The surgeons who took part in the excellent and extensive scientific program included:

Dr. Francisco Rizzo V.
Dr. Gustavo Arosemena M.
Dr. Augusto Bonilla
Dr. Eduardo Alcivar E.
Dr. Jaime Barredo H.
Dr. Luis F. Garcia
Dr. Rosendo Arosemena E.
Dr. Angel Auad H.
Dr. Ernesto Iturralde
Dr. Guillermo Guerra
Dr. Guillermo Castro B.
Dr. Carlos Grunauer T.
Dr. Roberto Gilbert E.
Dr. Francisco Ramírez N.
Dr. Oscar Paladines
Dr. Fernando Gutiérez H.
Dr. Camilo Nevárez V.
Dr. Alfonso Aguirre L.
Dr. Francisco Estrada V.
Dr. Carlos Matamoros T.
Dr. Jorge Avecillas P.
Dr. Enrique St. Loup
Dr. Alfredo Sardiñas R.
Dr. Oswaldo Rodriguez
Dr. José M. Varas
Dr. Enrique Ortega M.
Dr. Emiliano Galarza
Dr. David Hilbron
Dr. Hugo Merino
Dr. Fernando López L.
Dr. Julian Hirsch
Dr. Juan Durango
Dr Félix Díaz

Dr. Otón Ampuero
Dr. Jorge Santiana
Dr. José M. Barraquer
Dr. Reinaldo Tuckler
Dr. Teodoro Maldonado C.
Dr. José Ramirez D.
Dr. Juan Tanca M.
Dr. Clodoveo Alcivar Z.
Dr. Aquiles Rigail
Dr. Fidel Miranda R.
Dr. José Baquerizo M.
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Dr. Enrique Espinoza V.
Dr. Emiliano Crespo T.
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Dr. Carlos Morán V.
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Dr. Walter Franco I.
Dr. Alfonso Tamayo
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Dr. Amadao Freire P.
Dr. Plutarco Chiquito P.
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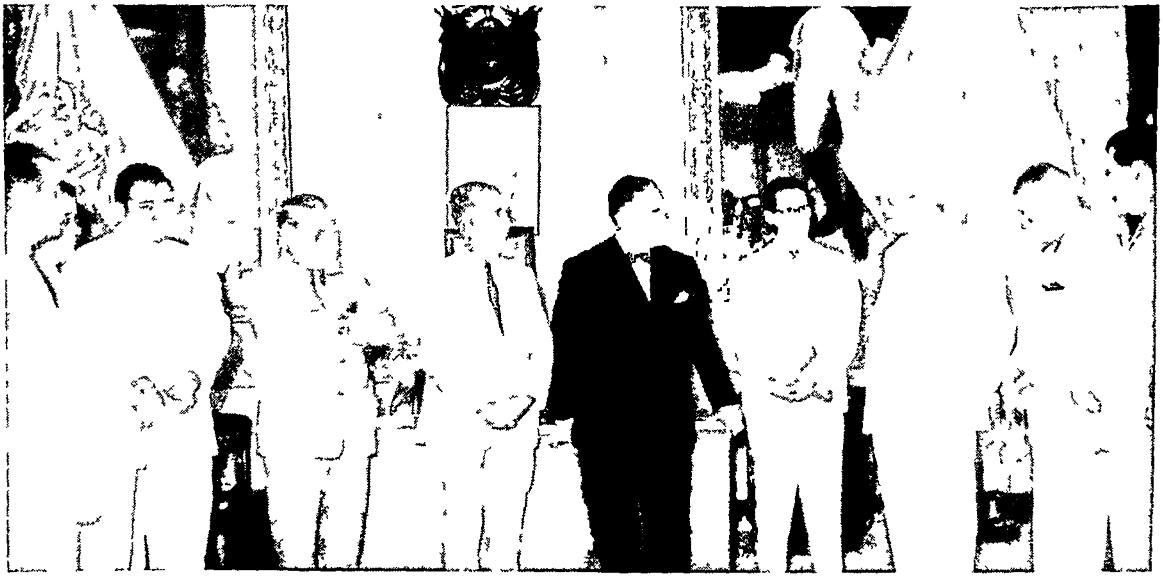
Dr. Gabriel Panchana C.
Dr. Luis Cueva S.
Dr. Juan F. Orellana
Dr. Angel Serrano S.
Dr. Marco A. Martínez
Dr. Fernando Vargas O.

The meeting was held concurrently with that of the Guayaquil Chapter of the Pan American Medical Association, and attracted an excellent audience. The social events were numerous and most enjoyable.

More than twelve medico-surgical societies lent their cooperation and pledged their future participation.

With such support and such encouragement the dynamic Ecuadorian Section is not only gratified by the success of its Inaugural Assembly but is enthusiastically planning another meeting in Quito during the month of October 1960.

One of the outstanding events of the Assembly was a formal session held at noon on Saturday, October 3, at the Salon of the Liberators in the Gubernatorial Palace, at which Dr. Harry E. Bacon, Dr. Alexander Brunschwig and Dr. Max



Ceremonial session in the Gubernatorial Palace: Dr. Gabriel Panchana C.; Mr. Fred Somerford, consul of the United States; Dr. José Ramirez D.; Dr. Enrique Uraga P., president of the Guayaquil Chapter of the Pan American Medical Association; Dr. Teodoro Maldonado C., president of the Ecuadorian Section of the International College of Surgeons; Dr. Eduardo Ortega M.; Dr. Gilberto Hirojose; Dr. Alexander Brunschwig; Dr. Harry E. Bacon and Mr. William Moreland, consul-general of the United States

Thorek of Chicago, founder and secretary-general of the International College of Surgeons, were honored by the government of Ecuador. In recognition of the brilliance of their universally acknowledged achievements in surgery and in appreciation of their generous contribution of time and effort to add to the excellence of the Inaugural Assembly of the Ecuadorian Section, they were awarded citations as diplomates (official grade) of the national Ecuadorian order *Al Merito.*

Speaking for His Excellency, **Dr. Camilo Ponce Enriquez**, president of the Republic and honorary chairman of the Assembly, Dr. Eduardo Ortego Moreira, president-elect of the Ecuadorian Section of the International College of Surgeons and governor of the province of Guayaquil, expressed his personal pleasure in conferring these honors upon such distinguished Fellows of the College.

In replying, Dr. Bacon spoke of his appreciation of the high distinction and Dr. Brunschwig said he accepted the diploma as a symbol of the fraternal union between the surgeons of Ecuador and the United States.

The diploma designated for Dr. Thorek was forwarded to him in Chicago and he suitably acknowledged the honor in writing.

The officers of the Ecuadorian Section of the International College of Surgeons are:

Dr. Teodoro Maldonado Carbo
PRESIDENT
Dr. Eduardo Ortega Moreira
PRESIDENT-ELECT
Dr. José Ramirez Dueñas
VICE-PRESIDENT
Dr. Francisco Rizzo Velasco
TREASURER
Dr. Gabriel Panchana Cucalón
SECRETARY

The success of the Inaugural Assembly was due largely to their efforts and to the efforts of the members of the various committees.

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SPAIN

Scientific Meeting and Election of Officers

The Spanish Section of the International College of Surgeons held a scientific meeting in Madrid on April 30—May 2, 1959.

The sessions were divided according to subject matter.

The sessions dealing with general surgery were held in the morning. Those dealing with traumatology and orthopedics, in the afternoon. The latter included the participation of former students of the Faculty of Medicine of Madrid who were practicing these specialties. All surgical demonstrations were held at the operating rooms of **Professors Martín Lagos** and **De la Fuente Chaos.**

During the morning sessions, on Thursday, Prof. Martín Lagos discussed surgery of the esophagus. On Friday, Prof. De la Fuente Chaos dealt with the problems presented by extracorporeal circulation. And on Saturday there were surgical demonstrations and the presentation of free communications.

Afternoons, on Monday, **Dr. Estades** discussed indications for arthroplasty of the hip, and **Dr. Santos Pérez Diaz** spoke of radiography of the fifth lumbar spinal level.

On Tuesday, **Dr. Palacios** dealt with osteomielitis in infants, and **Dr. Dávila** with the shelf of the acetabulum.

On Saturday, **Dr. Manzano Flores** presented a paper on results obtained in supracondylar fractures in children, followed by surgical demonstrations.

A banquet was held on Saturday, May 2, indicating the end of a most successful meeting.

The Section held an election of officers and chose the distinguished urologic surgeon **Prof. Dr. Alfonso de la Peña** of Madrid as president.

Prof. de la Peña is fifty-five years old and a native of Valladolid. He received his M.D. degree from the University of Madrid in 1927. He served as resident in the San Carlos University Hospital in Madrid, and followed postgraduate studies abroad. In Germany, he was a resident at St. Hedwig Krankenhaus in Berlin, and, in the United States, at the Columbia, Milwaukee Children's and the South View Hospitals in Milwaukee, Wisconsin. He further served as resident and was a Fellow of the Mayo Clinic in Rochester, Minnesota.

At present Dr. de la Peña is professor and head of the department of urology on the Medical Faculty of the University of Madrid.

He is a member of the *Sociéte Francaise d'Urologie* and of the urological societies of Argentina, Belgium, Cuba, Mexico and other countries. He is an honorary member of the *Deutsche Gesselschaft für Urologie* and a delegate from Spain to the International Society of Urology. He is a Fellow of the Del Amo Foundation of Los Angeles, and of the *Consejo Superior de Investigaciones Científicas,* Madrid.

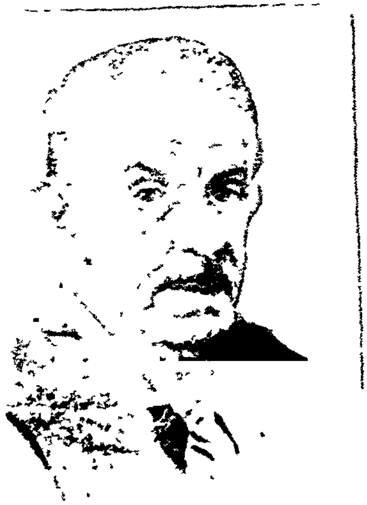
Prof. de la Peña has been made a Chevalier of the Legion of Honor of France, an honorary consul of Bolivia, and a *Caballero of the Orden de Isabel la Católica.*

He has published a number of books, among them *Tumores de Testículo, La Próstata y sus Enfermedades, La Resección Transuretral de la Próstata, Alergia en Urología,* and more than two hundred articles.

Prof. de la Peña attended the North American Federation Congress of the College in Chicago this September and took an active part in its proceedings.

In Memoriam

BERNARD SAMUELS
M.D., F.A.C.S., F.I.C.S., D.A.B.
1879-1959



Bernard Samuels
M.D., F.A.C.S., F.I.C.S., D.A.B.

Dr. Bernard Samuels, F.A.C.S., F.I.C.S., D.A.B., of New York City, professor emeritus of opththalmology at the Cornell University Medical College, died on Sunday, July 26, 1959, in Wiscasset, Maine.

A native of Front Royal, Virginia, Dr. Samuels received his M.D. degree from the Jefferson Medical College in Philadelphia in 1907. He then went abroad for postgraduate study in ophthalmology at Vienna, Prague and Berlin.

In 1914, Dr. Samuels became a clinical instructor in ophthalmology at the Cornell University Medical College. He served in France as a major in the medical corps of the United States Army during World War I. In 1922 he was appointed an assistant professor, and in 1927 full professor, at Cornell Medical. He retired in 1942.

His association with the New York Eye and Ear Infirmary as a teacher goes back to 1919. From 1930 to 1936 he headed one of the clinics, and from 1946 until his death he served the infirmary as advisory surgeon and consulting pathologist. In 1956 he was instrumental in establishing the infirmary's Institute of Ophthalmology of the Americas, designed primarily for postgraduate medical students from Latin America.

He also was an attending surgeon in ophthalmology (1932-1942) at the New York Hospital, and since 1942 continued as a consultant.

In 1949, Dr. Samuels was elected to the executive committee of the National Society for the Prevention of Blindness and five years later presided at the Seventeenth International Congress of Ophthalmology in New York. He belonged to numerous professional associations, served as a first vice-president of the American Academy of Ophthalmology, and was an honorary member of several foreign ophthalmological societies.

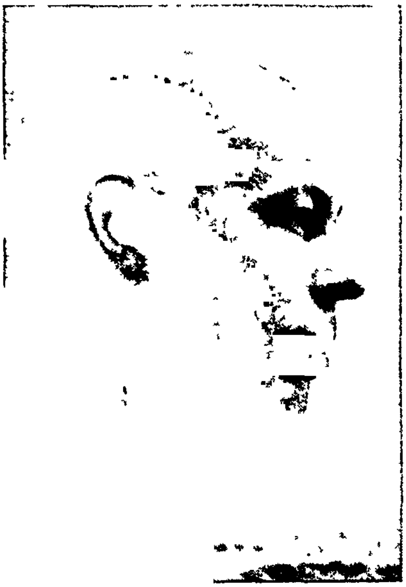
Dr. Samuels made numerous and important contributions to the development of ophthalmology and ophthalmologic education, particularly in the field of histopathology.

He was an amateur historian, belonged to historical societies, and found much pleasure in furthering this interest.

Dr. Samuels is survived by his brother, Walter Berry Samuels of Syracuse, New York, to whom the officers and members of the Board of Governors of the International College of Surgeons extend their sincere sympathy.

In Memoriam

ERNEST GUNTHER ABRAHAM
M.D., F.I.C.S., D.A.B.
1901-1959



Ernest Gunther Abraham
M.D., F.I.C.S., D.A.B.

The September issue of the *Bulletin* carried a note of sympathy to Dr. Ernest G. Abraham, F.I.C.S., of New York City, upon the death, on July 3, 1959, of his wife, the gifted pianist Maryla Jonas. Dr. Abraham was at the time recovering from a severe attack of coronary disease, and a few weeks later, on August 17, he died, quietly, in his sleep.

Dr. Abraham was a vice-president, associate secretary and a member of the Board of Governors of the International College of Surgeons, a member of the board of editors of the *Journal,* and, in New York State, a vice-regent for the United States Section of the College and a member of the credentials committee.

Dr. Abraham, in addition to maintaining offices, was connected as obstetrical and gynecologic surgeon with the Mt. Sinai Hospital of New York City.

He was born in Danzig, Germany, on Nov. 4, 1901, of a distinguished medical family, his father, Dr. Sigismund Abraham, having served as brigadier general in the German Army medical corps.

Dr. Ernest Abraham studied medicine at the Universities of Breslau, Freiburg, Berlin and Königsberg. He took his M.D. degree at Albertus University in Königsberg and served his internship and residency at the Municipal Hospital in Danzig.

Before he was forced to leave Germany for France, where his parents were living in retirement, Dr. Abraham was in charge of the departments of gynecology and obstetrics at the Breslau Jewish Hospital. He also taught and served as state board examiner in gynecology and obstetrics at the Hospital of the Silesian Friedrich Wilhelm University. He did editorial work for the leading German gynecologic, obstetrical and surgical journals.

While in France, he was offered the directorship of the gynecologic and obstetrical division of the Municipal Hospital in Monte Carlo. Instead, he came to the United States, where, after passing, in 1940 and 1941, the state board examinations in New Jersey and New York, he joined the clinical staff of Mt. Sinai Hospital in New York City.

Dr. Abraham was a member of numerous medical and surgical associations and published widely in the literature of his specialty.

His death is a great loss to the community and to the International College of Surgeons.

In Memoriam

ERNST BECK
M.D., A.I.C.S.
1919-1959

A promising surgical career was ended and a life rich in all good attributes was cut short when, on July 28, 1959, while on a vacation hunting trip, Dr. Ernst Beck, A.I.C.S., of Berlin-Frohnau, Germany, was accidentally killed.

Dr. Beck, a native of Heinersdorf in Schleswig, had his preliminary education at the Patschkau Gymnasium and studied medicine at the Universities of Breslau and Greifswald. He received his M.D. degree in 1945 and later received special certification in surgery.

He served a series of internships, surgical residencies and assistantships in the following hospitals: *Hedwigs-krankenhaus; Krankenhaus im Friedrichshain; Universitätsklinik Charité; Krankenhaus Köpenik; Krankenhaus Moabit Chirurgische Universitätsklinik; Jüdisches Krankenhaus Iranische Strasse; Kinderkrankenhaus im Wedding,* and *Krankenhaus Iranische Strasse.*

For about five years, Dr. Beck was associated with Prof. Dr. Erwin Gohrbandt, F.I.C.S., professor of surgery at the Moabit City Hospital Department of the University of Berlin.

In 1956, upon the recommendation of Prof. Gohrbandt and Prof. Dr. A. Hübner, F.I.C.S., professor of surgery at the University, Dr. Beck was granted a foreign exchange surgical scholarship from funds contributed by the Woman's Auxiliary to the United States Section of the International College of Surgeons, which made it possible for him to accept a fellowship in chest surgery at the Presbyterian-St. Luke's Hospital in Chicago.

Ernst Beck
M.D., A.I.C.S.

During that time Dr. Beck became an Associate in the College and established many ties of professional and personal friendship in the United States.

Studious, analytical and industrious, he was highly skillful, and possessed the ideal requirements for a career in science and surgery. His published works were well received by the profession.

Dr. Beck was married to the former Miss Luise-Lotte Radecke, and was the father of three children, Marie-Luise, Barbara-Beate and Johannes.

He was an able and a happy, confident young man, in good health, an honor to his profession.

Officers and members of both the German and the United States Sections extend to Mrs. Beck and her family their very sincere sympathy.

International College of Surgeons

FOUNDED BY DR. MAX THOREK
(GENEVA, SWITZERLAND, 1935 - WASHINGTON, D. C., 1940)
A World Federation of General Surgeons & Surgical Specialists, Inc.
"Instrument of the Free World"

OFFICE OF THE
INTERNATIONAL SECRETARY GENERAL
850 WEST IRVING PARK ROAD
CHICAGO 13, ILLINOIS

Re: Membership Directory

Dear Doctor:

We are preparing a Directory of the membership of the International College of Surgeons in the United States and the rest of the world. This will include also the Constitution and Bylaws of the College, information on qualifications for membership, a description of the activities of the College, as well as a full list of members, alphabetically and regionally arranged, with pertinent information about each member.

The publication of this Directory will entail an expense to the College of between 25 and 30 thousand dollars. The material is now being prepared for the printers, and we are soliciting your subscription for a copy of this handy and informative volume.

The pre-publication price for a copy of this important book is $5.50 — after publication $7.50.

We would appreciate your cooperation. Please return the attached subscription blank in the enclosed self-addressed envelope, and oblige

Yours sincerely,
PUBLICATIONS COMMITTEE
INTERNATIONAL COLLEGE OF SURGEONS

Dr. Max Thorek, Editor

Directory Department
International College of Surgeons
1516 Lake Shore Drive
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The Journal of the
International College of Surgeons

FOUNDED IN GENEVA, SWITZERLAND, 1935 - INCORPORATED IN WASHINGTON, D. C., 1940

Vol. 32 DECEMBER, 1959 No. 6

General Surgery

Roentgen and Pathologic Appearance of Chronic Odditis

MARCEL ROUX, M.D., F.I.C.S., R. RETTORI, M.D., CHARLES DEBRAY, M.D.,
R. LE CANUET M.D., AND R. LAUMONIER, M.D.
PARIS, FRANCE

The authors call attention to the frequency of anatomic changes in the terminal portion of the common ducts, due either to lithiasis of the common bile duct or to primary causes. They describe a certain number of roentgen pictures of these lesions and present a pathologic study, calling special attention to three characteristic changes: (1) glandular dystrophy; (2) sclerosis, and (3) muscular changes. Occasional neural changes also occur. In general, these lesions appear to be more dystrophic than inflammatory.

ALTHOUGH we find only rare reference in the literature on biliary pathologic conditions to "disease of the terminal common duct" (Bengolea and Negri[1]) called by del Valle and Donovan[2] *vatero-odditis* and by Mallet-Guy and Feroldi[3] "disease of the Oddi sphincter," its frequency is certainly greater than one might suppose.

Plinio Bove[4] of Sao Paulo, in 1953, in his exhaustive study devoted to diseases of the region of Oddi's sphincter, estimated that a chronic inflammatory reaction of the terminal segment of the common bile

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From the Second Surgical Service of Hopital Laennec, Paris

Read at the First Congress of the European Federation, International College of Surgeons, Brussels, May 17-18, 1958.

Submitted for publication Oct. 27, 1958

International College of Surgeons

FOUNDED BY DR. MAX THOREK
(GENEVA, SWITZERLAND, 1935 - WASHINGTON, D. C., 1940)

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B. *Roentgen signs during operative exploration:* The most essential characteristic is the persistence of the pathologic picture. For this reason several films must be taken.

Three signs are noticed during this examination: indirect signs, direct signs and associated signs.

Indirect signs are similar to those signs described for medical cholangiographic study. They are as follows:

1. *Dilation of the common bile duct.* The choledochus-vertebra proportion reaches 0.20:0.25 or more (normal proportion, 0.10:0.13). This sign is not absolutely constant. In a few cases the bile duct remains normal in size. In 1 case we have even seen it narrowed.

2. *Backing up into the biliary intrahepatic ducts. This, often difficult to obtain in the case of a normal Oddi, is almost always constant.* The biliary intrahepatic ducts may be normal in appearance. If the Oddi obstacle is great, the intrahepatic canals may be considerably dilated (Fig. 3).

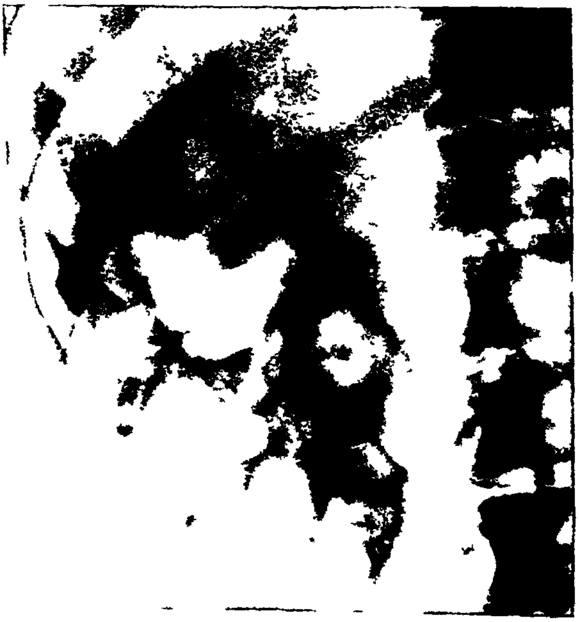

Fig. 1.—Venous cholangiogram showing convex terminal appearance of choledochus and of hemolysis tube.

Fig. 2.—Bulbous appearance of terminal part of choledochus, with beginning of narrowing pushed toward left.

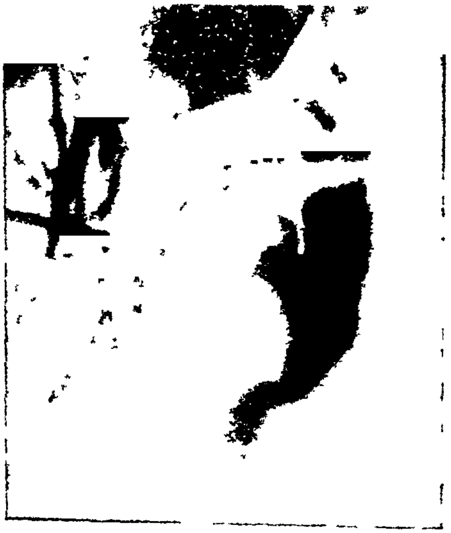

Fig. 3.—Large retrodilatation of biliary tree and intrahepatic ducts; pancreatic duct backing up.

3. The transpapillary passage of Diodone is mediocre and ordinarily cannot be determined except under increased pressure.

4. *Backing up into the pancreatic duct.*

duct is present in 30 per cent of the cases of pancreatic-biliary disease.

W. Hess[5] of Basel, in 1955, expressed the opinion that stenosing papillitis exists in 29 per cent of the cases of biliary lithiasis of the common duct.

Soupault and Goinard[6] have also emphasized the frequency of these phenomena.

We ourselves have observed 80 cases of papillitis or odditis (13 per cent) in 611 biliary pancreatic interventions controlled by operative radiomanometric study. In these cases the disease was associated with biliary lithiasis of the common duct 41 times out of 80, or in 52 per cent of the cases.

The diagnosis of odditis is difficult. There is no characteristic clinical syndrome, and venous cholangiographic study permits one to suspect odditis in only a few cases, and this without certitude.

Surgeons should be acquainted with the many aspects of these lesions, since they probably play a determining role in the origin, in a great number of cases, of lithiasis of the common bile duct and an equally important role in the pathogenesis of what is called the postcholecystectomy syndrome.

Moreover, these conditions lend themselves to surgical treatment and respond well to it, which gives them increased interest.

Systematic radiomanometric study of all our cases and routine histologic examination, always performed by the same pathologist, have permitted us to individualize a certain number of the roentgen pictures and anatomic types that form the subject of the present study.

Roentgen study of chronic odditis.—A. *Preoperative:* We prefer venous cholangiographic study of the oral type, since it provides more specific opacification of the common bile duct and is often the only technic that can be employed when the gallbladder is roentgenographically invisible.

We obtain by this method, however, only an imperfect and approximate opacification of the terminal part of the common duct, which is the area we are trying to observe.

Pharmacodynamic medicines, such as morphine, increase the tonality of the common duct by closing the Oddi opening. They are contraindicated, however, since they erase the picture of the region to be studied.

In view of these technical difficulties, the "medical" signs of disease of the terminal portion of the common duct remain indirect and only presumptive. We mention three of the more useful ones:

1. The narrowness of the duodenal passages and the slow emptying of the common bile duct, in which the roentgen picture sometimes shows increased tonality, resembling that which causes the Oddi opening to close under the influence of morphine.

2. The widening of the common bile duct, whose diameter of 6 mm. increases to 10 mm. or more. (We judge the caliber of the common duct by comparing it with that of the second lumbar vertebra, which eliminates the conic projection error and permits valuable comparison of several series of pictures.)

3. Finally and especially, an image indicating an abrupt ending of the base of the duct, describing a convex arch and giving an appearance similar to that of the end of a finger (Mallet-Guy) or a hemolysis tube (J. P. Hardouin). This picture seems to us the most constant and the most evocative (Fig. 1).

At times the end of the common duct appears swollen or narrowed with lateral filtration and pushed toward the left (Fig. 2). We shall speak again of the significance of this picture when we study the operative cholangiograms.

obscure cases, confirm the presence of an organic lesion.

Before outlining these roentgen appearances, however, we consider it useful to describe the normal roentgen appearance of the lower part of the normal choledochus.

Roentgen Aspect of the Lower Portion of the Normal Common Duct.—It is generally recognized that the opening and closing of the various parts of the Oddi system comprise a synchronized function. At the time of opening, the end of the common duct forms a regular curve extending to the duodenal lumen; at the same time, its diameter is progressively diminished.

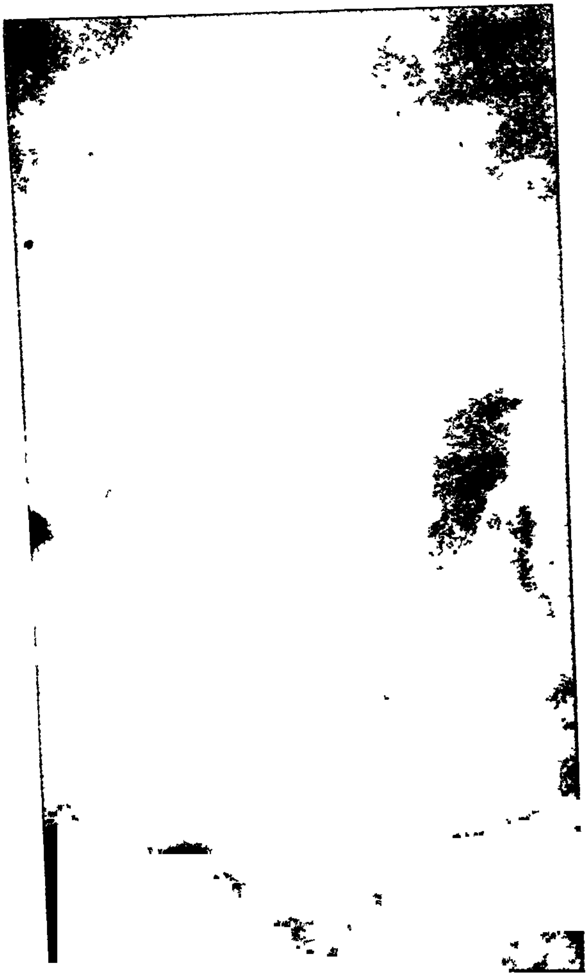

Fig. 6.—Hooked appearance; associated stone.

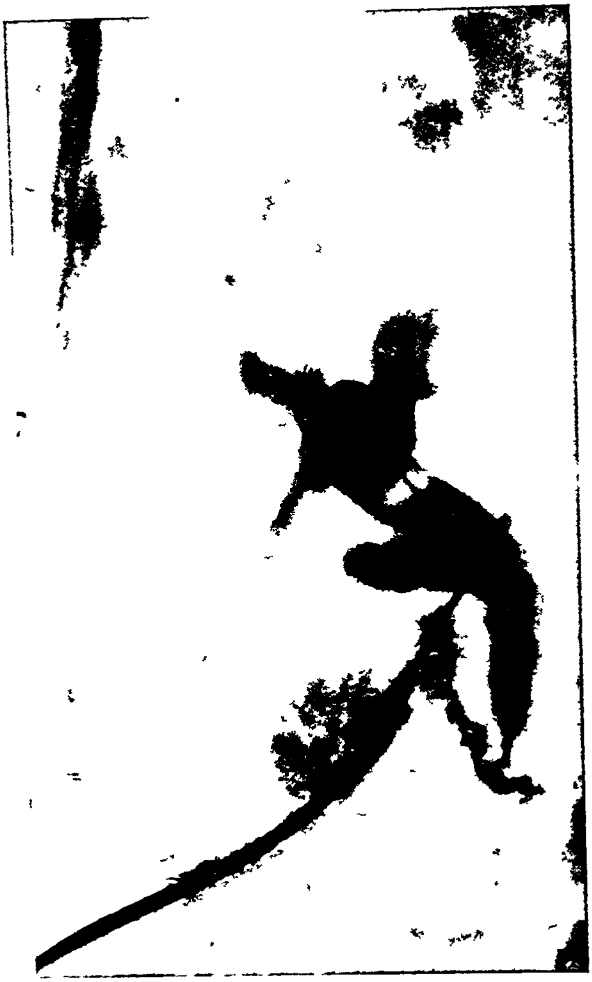

Fig. 7.—"Pestle" appearance.

Often we observe a regular lateral notch that rapidly reaches the terminal narrowing of the lumen. We consider this due to the tonicity of the sphincteric fibers of the choledochus proprius muscle which encircle, *obliquely*, the lower part of the common duct and consequently retract to a greater extent on the right side (Rettori[9]).

As the Oddi sphincter closes, the opaque line stops abruptly, horizontally or in a slightly concave manner, the sides of the canal remaining parallel and undistended.

We have already mentioned that backing up into the pancreatic duct is rare.

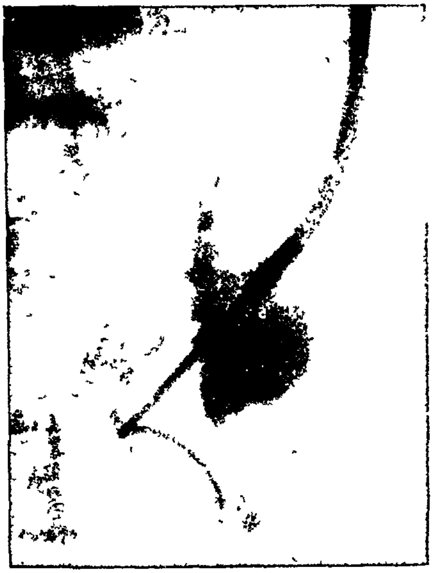

Fig. 4.—Pancreatic duct "lake." Quadrangular picture.

Fig. 5.—Vertical upper tubular segment pushed to right.

This is rare in our experience, but is here very frequent (Fig. 3; Fig. 10, *right*). We ignore the exact mechanism of this backing up; no doubt two simultaneous factors must be considered, a specific disturbance of the common channel (which has the strongest sphincter) and a relative weakness of the sphincter of this pancreatic duct, which will let itself be forced all the more easily as increased pressure is necessary to obtain an Oddian passage.

The pancreatic duct may appear normal, 1 to 2 mm. in diameter, thin and regular, with rectalinear borders; sometimes it is frankly dilated, of regular caliber or moniliform. Often one notices a shortening of the end of the pancreatic duct, probably corresponding to the region of the sphincter.

The importance of backing up into the pancreatic duct is variable. Investigators have been able to distinguish it up to the cervicocephalic juncture and sometimes to the lower canal of the head of the pancreas (Cordier and Arsac[7]). In other instances the backing up may be only slight, resembling a short appendix or a tiny circular "pearl" image in the terminal part of the common bile duct.

Direct signs indicate the condition of the terminal portion of the common duct itself, and they cannot be demonstrated correctly by venous cholangiographic means, as we have already said.

Excellent and numerous roentgenograms are necessary in order to demonstrate and permit interpretation of these changes in the terminal portion of the common duct. In doubtful cases, to improve the pictures, we use the artifice proposed by J. Gosset[8] and used by Calderon and Gilbrin. This method consists of placing a dental film in immediate contact with Oddi's sphincter, behind the pancreas, after a duodenopancreatic mobilization (F. M. Cadenat).

Although roentgen pictures of odditis are variable, depending upon the subject, they always have a "family air" about them that permits one to describe a relatively small number of typical pictures. The fact that the image is constant in a series of pictures and that pharmacodynamic treatment does not succeed in relaxing the sphincter are signs which, even in

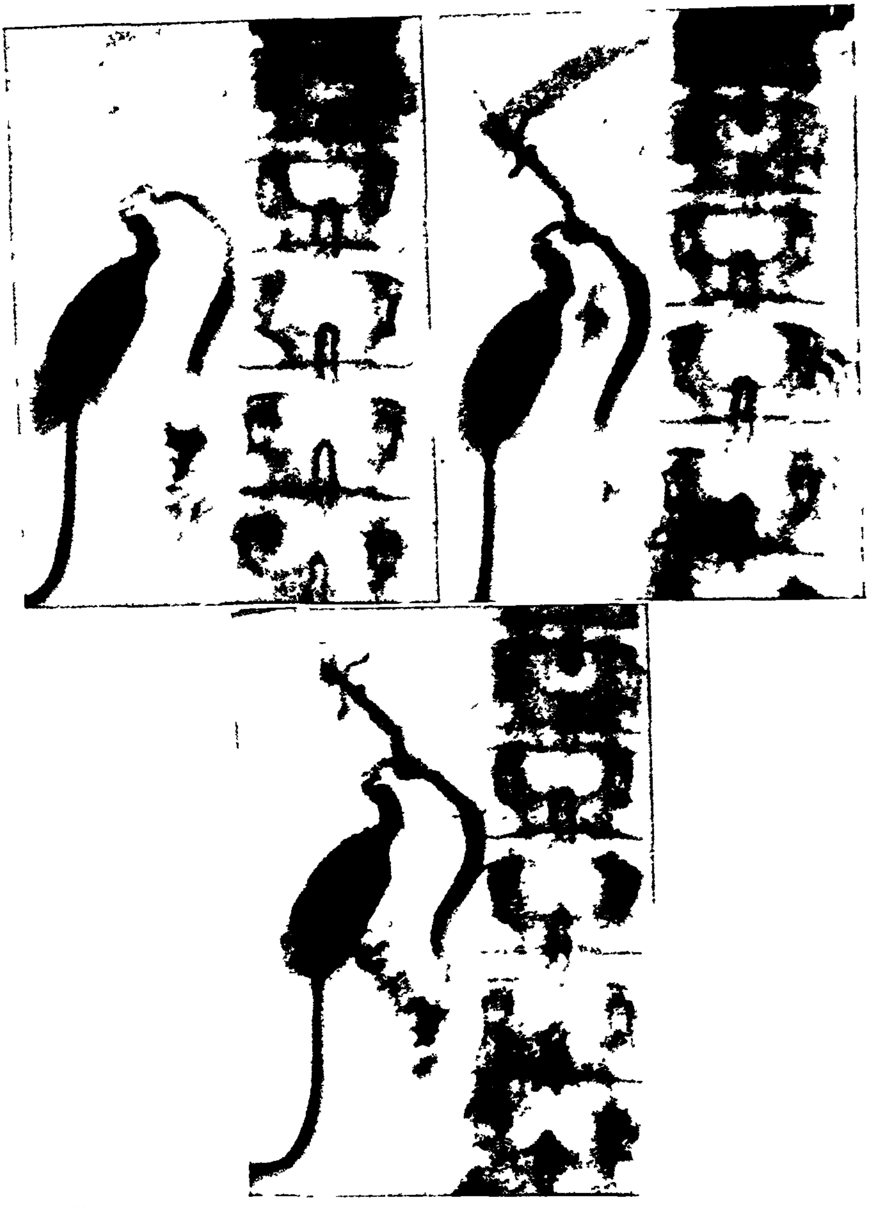

Fig. 9.—Functional hypertonicity. Left to right and top to bottom, closed and open sphincteric area.

agnosis of odditis is complicated by the presence of associated lesions.

Lithiasis of the common bile duct is easily identified when it is above the stricture, when it is a question of a stone in the ampulla of Vater the appearance may be most confusing (Fig. 6). One must be on the alert for this complication, so well described by Mirizzi.[10] Furthermore, the duodenal diverticulum, located close to the end of the common ducts, may overlap it and interfere with its analysis.

An Accompanying Syndrome.—These roentgen pictures, when typical, furnish enough evidence for diagnosis. Nevertheless, there are other diagnostic aids that help one to confirm the diagnosis and decide on the best therapeutic procedure.

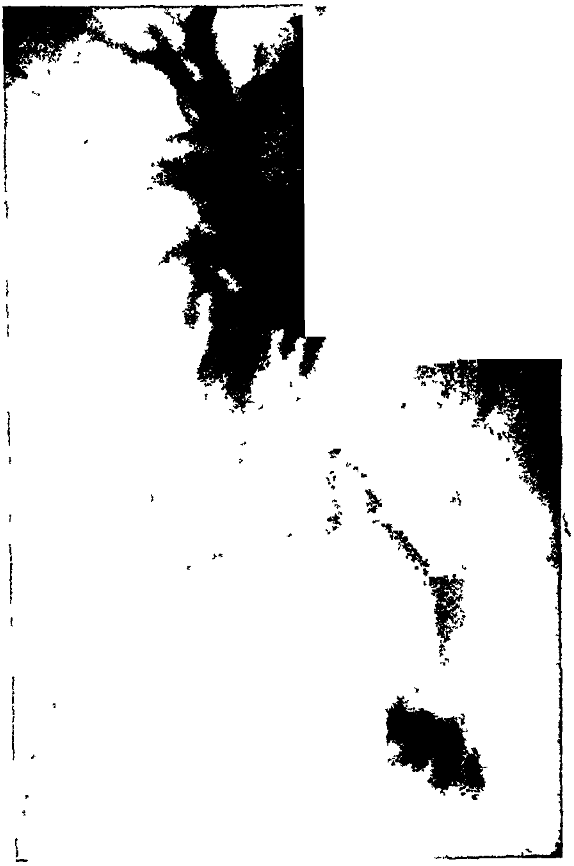

Fig. 8.—"Funnel" or "radish" appearance.

Roentgenographically, the opening of the papillary pore often takes the form of a tiny opaque dot in the middle of a pale halo.

C. *Roentgen Appearance of Chronic Odditis.*—Two types of picture are seen:

An abnormal appearance of the narrowed area, which corresponds to the terminal sphincteric portion of the common duct—an unusual joining of the region of the sphincter with the biliary tract underneath.

Upon close examination the pathologic area is composed of three segments:

1. An almost vertical upper tubular segment.
2. A middle segment corresponding to the branching of the pancreatic duct and usually respresented by a quadrangle (Fig. 4) or a vague triangle whose base is toward the bottom.
3. A lower threadlike segment that is often invisible, being mostly covered by the duodenal folds when seen from a frontal position. This segment runs from left to right and ends at the papilla.

The picture of the central spot seems to us absolutely pathologic. It may be missing, however, and we may be able to see only the upper, rigid rectilinear segment, which may itself be pushed to the right (Fig. 5) or may appear in an altogether unusual position (Fig. 6).

The upper part of the common duct is usually dilated. Here there is generally an abrupt change in diameter which, together with the upward convex picture (hemolysis tube) and the narrowing of the sphincter, forms a roentgen picture resembling an egg cup, a goblet or a pestle. Such pictures are highly suggestive (Fig. 7).

At other times the juncture is progressive, resembles a funnel or a radish and may be compared, all else being equal, to the terminal picture of megaesophagus (Fig. 8). Caroli and Mallet-Guy have reported examples of this.

It is rare to observe a concavity at the base of the juncture, with a central narrowing. If the narrowing is absent, however, the picture resembles that of a stone. We have seen this picture especially in association with functional hypertonicity of Oddi's sphincter (Fig. 9).

On several occasions we have seen a most curious appearance at the juncture. This takes the form of a swelling that is larger than the common duct above it and is separated from it by a fold. This is probably due to segmentary dilatation of the duct just above the stricture.

The combination of this picture and the altered, distorted sphincter narrowing give a "bent nail" picture (Fig. 10, *left* and *right*) that we have noticed many times.

Associated Aspects.—The roentgen di-

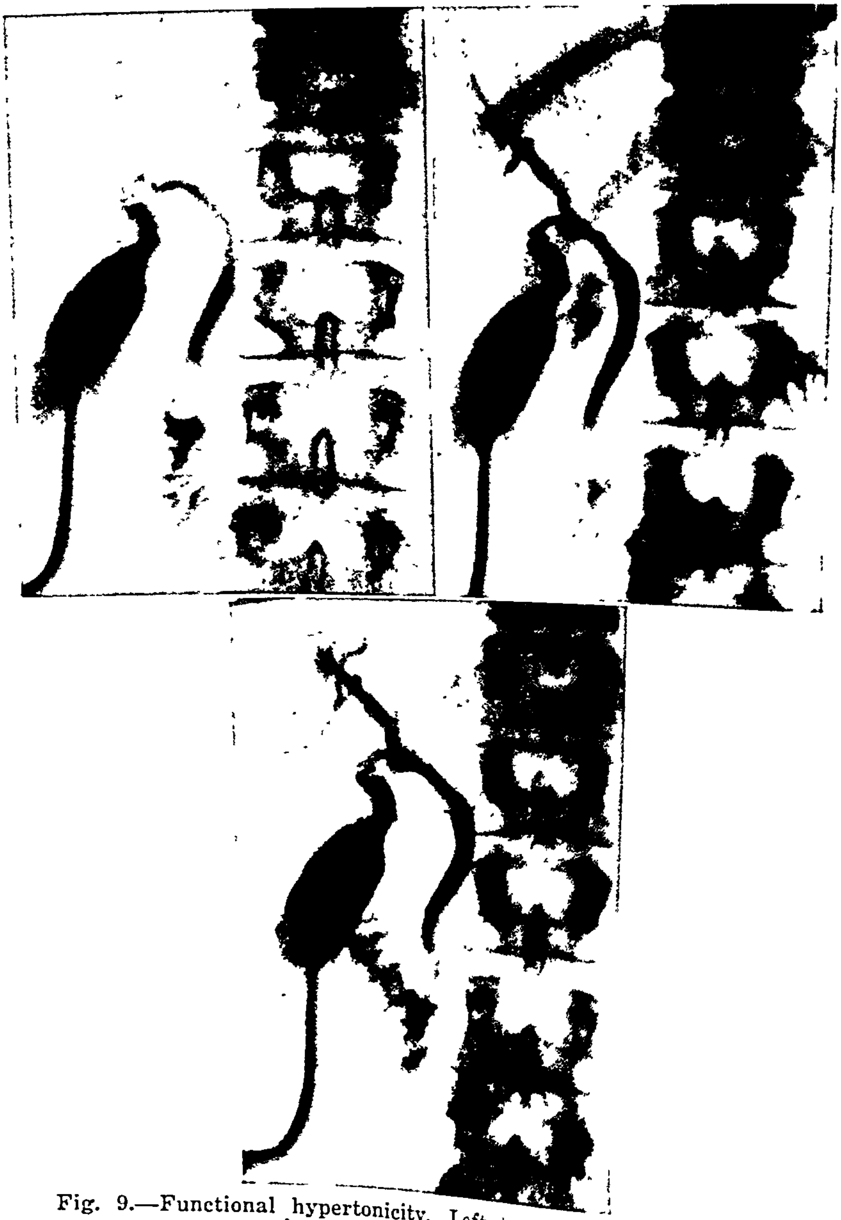

Fig. 9.—Functional hypertonicity. Left to right and top to bottom, closed and open sphincteric area.

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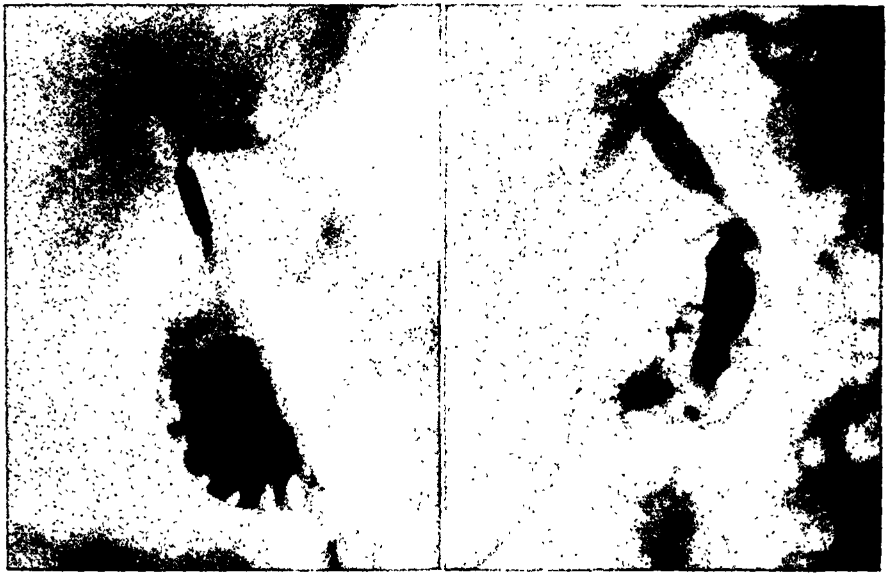


Fig. 10.—"Bent nail" appearance.

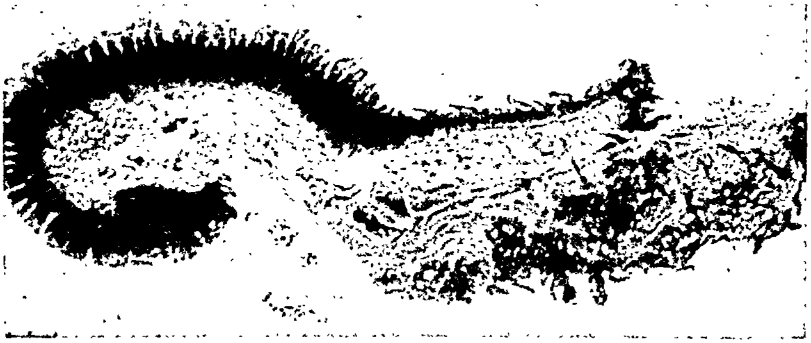


Fig. 11.—Biopsy specimen. At top, duodenal side; at left, extremity of papilla; at lower right, fibromusculoglandular nodule of ampullary side (hematoxylin and eosin stain).

These aids are (1) manometric study, to estimate increased pressure within the common duct, and (2) instrumental catheterization of the lower part of the common duct, a technic we cannot describe here.

Pathologic Aspects of Chronic Odditis.—1. *Macroscopic Appearance:* This is judged by the surgeon at operative examination of the papilla after duodenotomy.

Three aspects seemed to us most frequent:

1. Sometimes, although the papilla is almost normal, its terminal opening presents a lipped or lacerated polycyclic appearance indicating an inflamed, adenomatous, proliferating mucosa. This picture probably corresponds to del Valle's description of fungus, with the reservation that the villi are not necessarily congestive. They are more frequently pale and only slightly inflamed.

2. At other times the papilla is atresic and the terminal opening punctiform and inextensible. Bachetto and Brian described what was probably this same phenomenon as "senile mammilla."

3. At still other times the papilla seems only edematous and purplish and retains almost normal flexibility. This appearance has been described by del Valle and Plinio

Bove. These slight changes probably indicate functional alterations, edema, muscular degeneration or mucoglandular alterations. They are more important than the sclerosis and may even appear in advance of the sclerosis.

2. *Microscopic Changes:* This analysis comprises 30 biopsies carried out at the time of sphincterotomy (Fig. 11).

All specimens were obtained from the upper pole of the papilla, and the sphincterotomy was, in each instance, preceded by manometric examination demonstrating irreversible hypertonicity of Oddi's sphincter and thus indicating the organic nature of the lesion.

The biopsy specimens averaged 8 mm. in length, and in almost all (27 of 30) there was a central area of connective tissue on the free border and muscular tissue

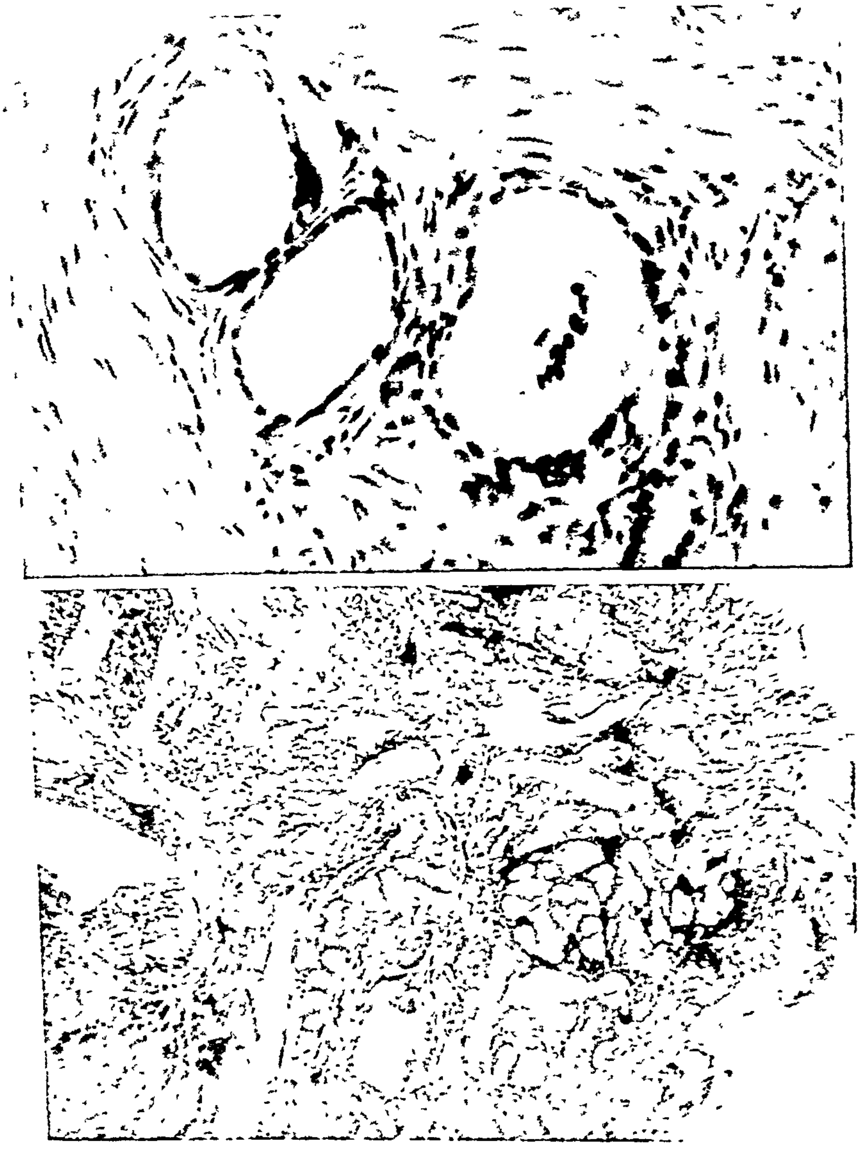


Fig. 12.—Glandular changes. Canals blocked by sclerosis and, coincidentally, glands in state of cystic distention (*below*).

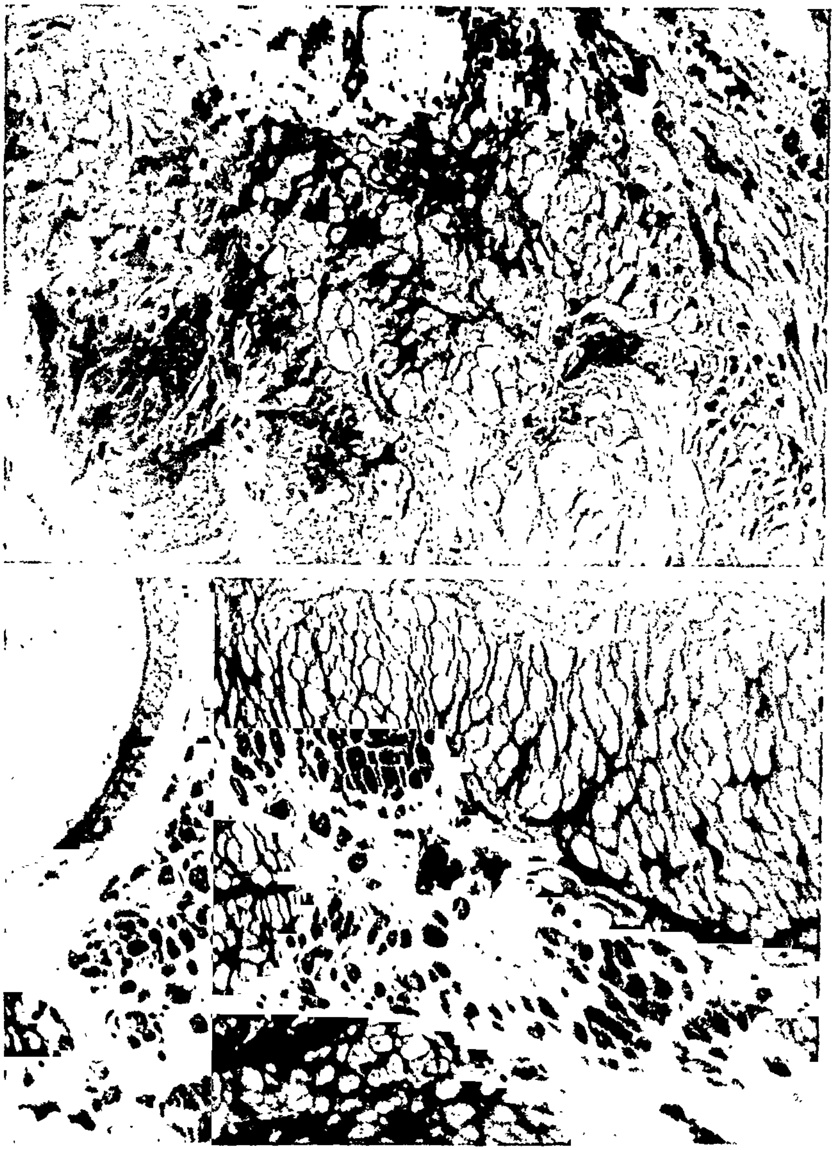


Fig. 14.—Dystrophy of muscle fibers, which swell and undergo edema of their sarcoplasm.

malities; swelling, with vacuolization of the protoplasm, and cellular retraction with acidophilia and nuclear atrophy (not reaching pyknosis). Identical changes have been described by Feroldi. They are similar to those studied by Leriche and I. Bertrand in the ganglia observed during lumbar sympathectomy for arteritis of the legs. These pathologic nerve synapses are either included in the sclerotic area or located in the center of the muscle bands, without surrounding fibrosis.

Signs of acute or subacute inflammation have been absent in our cases. At most we observed small, rare lymphoid masses in the submucosa and between certain muscular strips. These negative observations are quite different from those of Feroldi, who asserted that the most important mucosal lesion is increased plasmocytic infiltration. We add that in 1 of our cases there were numerous intravascular and perivascular eosinophils in the chorion and in the sclerotic area.

The most outstanding details of this analysis are: (1) the picture of the scleromuscular-glandular nodule; (2) an intact duodenal mucosa and papillary extremity; (3) the absence or only slight evidence of acute or subacute lesions; and (4) the presence of abnormal nerve cells.

ZUSAMMENFASSUNG

Die Verfasser machen auf die Haeufigkeit anatomischer Veraenderungen des Endabschnittes des Ductus choledochus aufmerksam, die entweder auf Steinerkrankung des Gallenganges oder auf primaeren Ursachen beruhen.

Sie beschreiben eine Anzahl von Roentgenbefunden solcher Zustaende und untersuchen die pathologischen Grundlagen, wobei sie besonders auf drei charakteristische Veraenderungen hinweisen, naemlich 1. glandulaere Dystrophie, 2. Sklerose und 3. muskulaere Veraenderungen. Gelegentlich kommt es auch zu nervoesen Veraenderungen.

Im allgemeinen scheinen diese Erkrankungen mehr dystrophischer als entzuendlicher Art zu sein.

RESUMÉ

Les auteurs appellent l'attention sur la fréquence des altérations anatomiques de la région du choledoque terminal, soit au cours de lithiase de la voie biliaire principale, soit de façon primitive. Ils décrivent un certain nombre d'aspects radiologiques de ces lésions et en donnent l'étude anatomopathologique en insistant spécialement sur la triple caractéristique: *dystrophie glandulaire, sclérose, altérations musculaires* auxquelles s'associent parfois des altérations nerveuses.

Ces lésions apparaissent dans l'ensemble beaucoup plus dystrophiques qu'inflammatoires.

RESUMEN

Los autores llaman la atención sobre la frecuencia de cambios anatómicos en la porción terminal del colédoco, bien por causas primarias, bien por litiasis. Describen así mismo cierto número de cuadros radiológicos de estas lesiones y presentan un estudio patológico llamando especial atención sobre tres alteraciones características: 1) distrofia glandular; 2) esclerosis; 3) alteraciones musculares. También, ocasionalmente, puede haber alteraciones nerviosas.

Por lo general parece ser que estas lesiones sean más distróficas que inflamatorias.

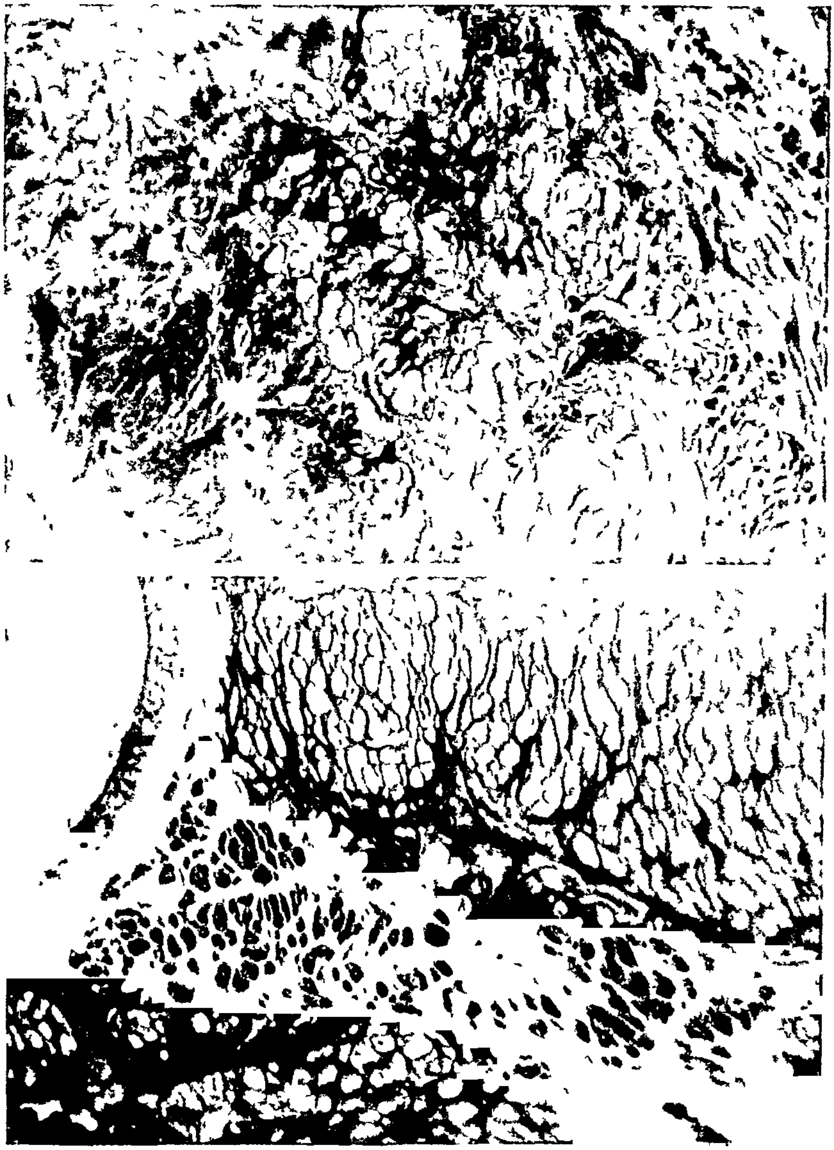
RIASSUNTO

Gli autori richiamanol'attenzione sulla frequenza delle alterazioni anatomiche delcoledoco terminale, dovute o a litiasi del dotto stesso o a cause primitive. Essi descrivono un certo numero di quadri radiologici di tali lesioni e presentano uno studio di esse sottolineando le seguenti tre alterazioni: distrofia ghiandolare, sclerosi e alterazioni musculari. Possono eventualmente essere presenti anche alterazioni nervose.

In generale queste lesioni sembrano essere più distrofiche che inflammatorie.

SUMARIO

Os AA. chamam a atenção sôbre a frequencia das modificações anatomicas dos canais biliares terminais devido a litiase do coledoco ou a causas primarias. Descrevem os achados radiologicos e apresentam um estudo de patologia insistindo sôbre tres modificações caracteristicas: 1. distrofia glandular; 2. esclerose; 3. modificações musculares. Podem ocorrer tambem alteraçôes nervosas.



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Peptic Esophagitis Complicated by Esophageal Ulcer and Obstruction

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A case of peptic esophagitis with unusual complications is presented. Esophagogastrectomy with the gastric remnant interposition in the Roux en Y esophagojejuncstomy was performed. The procedure is suggested for other lesions of the esophagogastric region, in order to prevent postoperative esophagitis.

Further studies about the procedure are in progress and will be reported in a future presentation.

INFLAMMATORY changes in the mucous membrane and wall of the esophagus, giving a clinical picture of esophagitis, can be produced by any of a number of etiologic agents. Of all the forms of esophagitis, that caused by the regurgitation of acid peptic juice is the most common and perplexing.

The terms "esophagitis" and "peptic ulcer of the esophagus" mean one thing to some people and something quite different to others. Since 1884, when MacKenzie defined esophagitis as "acute idiopathic inflammation of the mucous membrane of the esophagus giving rise to extreme odynophagia and often aphagia," considerable confusion has existed in the literature and in the minds of many as to the causes, classification and pathologic character of inflammatory conditions affecting the lower part of the esophagus.

Peptic ulcer of the esophagus was described by Tileston in 1906 and by others who reported the presence of discrete ulcerations in the lower part of the esophagus, apparently arising from ectopic gastric mucosa in that region. Winkelstein, however, in 1935, suggested that diffuse esophagitis in some of these cases could exist without definite ulceration, i.e., "peptic esophagitis which resulted from the irritant action of hydrochloric acid and pepsin on the mucosa of the esophagus."

In 1950 Barret[1] differentiated reflux esophagitis from chronic peptic ulcer occurring in the esophagus, which was lined by a continuous sheet of gastric mucosa. Reflux esophagitis appeared to be the result of diffuse inflammatory erosion, ulceration and fibrosis produced by reflux of gastric juice in the presence of an incompetent cardioesophageal sphincter mechanism and frequently associated with hiatus hernia.

Barret[1] further suggested that the ulcers secondary to reflux esophagitis are different from chronic peptic ulcers of the esophagus, since the latter are actually ulcers of the stomach, since they are situated in "a piece of gullet lined by gastric mucosa which functions as stomach." The lower portion of the esophagus may be lined by a continuous sheet of gastric mucosa or islets of ectopic gastric mucosa.

Peptic esophagitis has essentially the same pathologic picture as acid peptic disease of the duodenum,[2] i.e., duodenal ulcer.

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In the middle of that century [the nineteenth] medicine was still encyclopedic and the physician aimed at competence in all fields of his endeavor. A professor of medicine still tried to teach all phases of medicine. In 1848 a professor at Rostock taught clinical medicine, surgery, ophthalmology, and obstetrics! The scientific panorama was dominated by the work of Virchow, cellular architect, Pasteur, magician of ferments, and Claude Bernard, cartographer of physiology. The importance of anatomy in a physician's education had already been recognized, but medicine was not yet a science. By 1850 the use of chloroform, ether, and nitrous oxide had been discovered. The discovery of antiseptics twenty years later made possible scientific surgery. The theory of the conservation of energy dominated the universe of the physicist, while Darwinian evolutionism pervaded the world of the biologist. There was a general acceptance of the supremacy of the nervous system as rector of the organism, and the old Platonic concept of the unity of the soma and psyche was reborn.

—*Marti-Ibañez*

denum was scarred; no evidence of active ulceration, however, could be detected by palpation. The lower 5 cm. of the esophagus and the proximal two-thirds of the stomach were resected and the continuity of the alimentary tract reestablished as shown in Figure 2. The entire procedure was carried out through the chest after the diaphragm had been opened from the esophageal hiatus toward the costal cartilage.

The postoperative course was relatively benign except for some atelectasis of the lower lobe of the left lung. The thoracic tube was removed on the fifth postoperative day and the wound healed without incident. A Levine tube had been placed beyond the esophageal anastomosis at the time of operation, and the patient was fed through this tube until the seventh postoperative day, at which time the tube was removed and a bland progressive diet ordered.

The pathologic report of the operative specimen contained descriptions of the following conditions: (1) lymphoid hyperplasia of lymph nodes; (2) chronic active peptic ulcer of the cardia, involving the esophagus; (3) chronic gastritis and perigastritis, and (4) chronic esophagitis and periesophagitis.

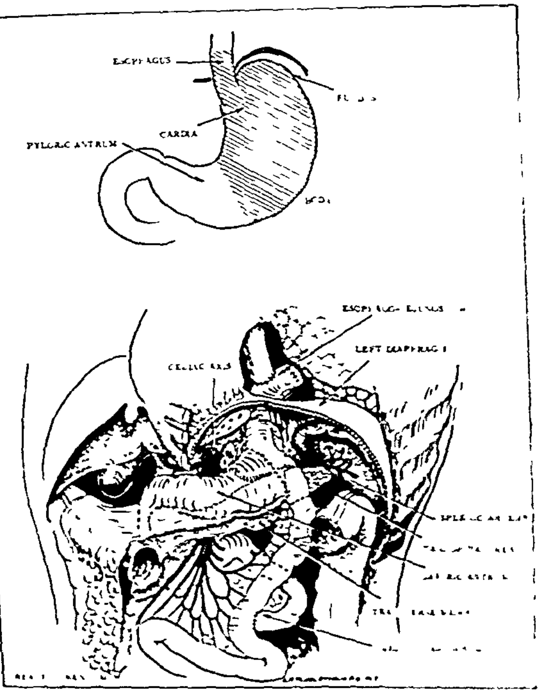

Fig. 2.—Schematic representation of operative procedure.

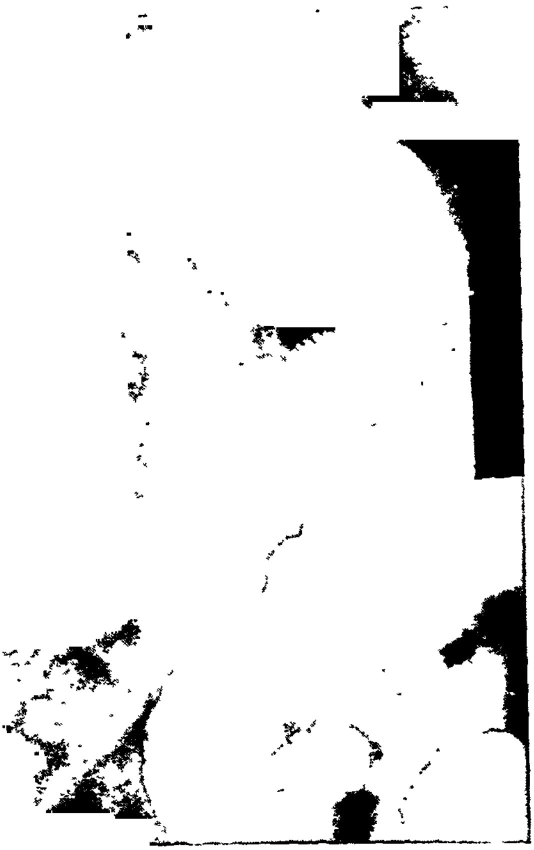

Fig. 3.—Postoperative roentgenogram of upper part of tract, showing flow of barium through gastric remnant.

On January 17, roentgen examination of the upper part of the gastrointestinal tract, with barium instilled through the nasogastric tube, revealed prompt exit of barium into the duodenum from the gastric remnant and also, in part, into the proximal jejunum.

A film taken fifteen minutes later revealed no significant change in the position of the barium in the lower part of the esophagus, the gastric remnant and the proximal portion of the small bowel. Presumably some postoperative atony of these structures exists.

On January 30 the roentgenologist's report of the gastrointestinal series aforementioned referred thus to the passage of barium: "Although some barium undoubtedly passes directly down the jejunum, the primary barium stream appears to pass through the esophagus, jejunum, gastric pouch, duodenum and then into the distal jejunum" (Fig. 3).

Convalescence since the patient left the hos-

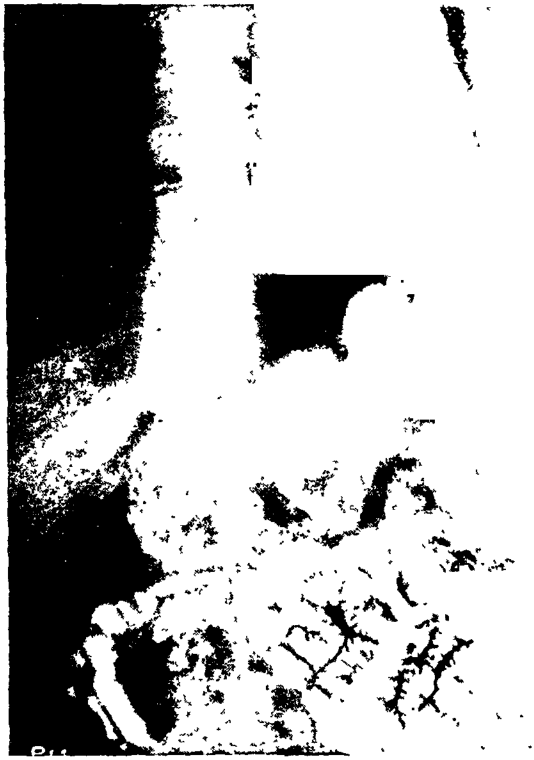

Fig. 1.—Preoperative roentgenogram demonstrating stenotic lesion of lower portion of esophagus.

The following case demonstrates the unusual nature of the lesion, which in this instance eventually caused esophageal obstruction and hemorrhage of the upper part of the gastrointestinal tract, and also because of the surgical procedure employed as therapy.

REPORT OF CASE

A. G., a woman aged 61, was admitted to St. Vincent's Hospital in New York City on Dec. 12, 1956, to the medical service of Dr. J. Robilotti, with a history of having vomited coffee-ground material on the morning of admission. She vomited again after admission to the hospital, and the vomitus contained a considerable amount of blood. On physical examination the patient was in shock. The blood pressure in millimeters of mercury was 90 systolic and 60 diastolic and the pulse rate 120 per minute. The hematocrit reading was 33 mm.

Past History.—In 1943 the patient had her first episode of hematemesis. She was treated conservatively. Investigation at that time revealed the presence of a duodenal ulcer. In 1948 and 1953 she again vomited blood and had tarry stools. Roentgenograms revealed the presence of a chronic duodenal ulcer. Six months prior to the present admission the patient began to have substernal pain and experienced "some difficulty in getting food down into the stomach." This difficulty became progressively worse until she was admitted to the hospital, at which time nothing but fluid could be taken by mouth. She had lost about 20 pounds (9.1 Kg.) in weight in the past six months.

Course in Hospital.—Upon admission the patient was treated for shock and was given about 1,500 cc. of blood. An upper gastrointestinal series at this time revealed the presence of a duodenal ulcer and a lesion at the lower end of the esophagus. The esophageal lesion was obstructive and was suspected of being a neoplasm (Fig. 1). Roentgenograms taken six months earlier did not reveal the presence of any esophageal pathologic condition.

On Jan. 3, 1957, esophagoscopic investigation revealed extensive esophagitis, extending from the cricopharyngeus to the cardia of the stomach. At 45 cm. an intrusion into the lumen of the esophagus was noted from the left lateral wall, which almost obliterated the lumen. A biopsy of this mass was reported as revealing hyperplasia with mild papillary overgrowth of the mucous membrane. There was not enough evidence to make a diagnosis of carcinoma.

Operation for a lesion of the lower end of the esophagus was performed on January 9, through the left side of the chest, after excision of the seventh rib. The observations at operation were as follows: the lower end of the esophagus was adherent to the surrounding tissue to a considerable extent, and its wall was about 1 cm. thick. The esophageal wall was rigid, and this rigidity extended down along the lesser curvature of the stomach. Additional mass-like thickening was present along the left lateral wall of the esophagus immediately above the diaphragm, and in an attempt to separate this from the surrounding tissue the esophagus was opened. This area later proved to be the site of a large penetrating peptic ulcer that extended down along the lesser curvature of the cardia. The duodenum was scarred; no evidence of active ulceration, however, could be detected by palpation. The lower 5 cm. of the esophagus and the proximal two-thirds of the stomach were resected and the continuity of the alimentary tract reestablished as shown in Figure 2. The entire procedure was carried out through the chest after the diaphragm had been opened from the esophageal hiatus toward the costal cartilage.

The postoperative course was relatively benign except for some atelectasis of the lower lobe of the left lung. The thoracic tube was removed on the fifth postoperative day and the wound healed without incident. A Levine tube had been placed beyond the esophageal anastomosis at the time of operation, and the patient was fed through this tube until the seventh postoperative day, at which time the tube was removed and a bland progressive diet ordered.

The pathologic report of the operative specimen contained descriptions of the following conditions: (1) lymphoid hyperplasia of lymph nodes; (2) chronic active peptic ulcer of the cardia, involving the esophagus; (3) chronic gastritis and perigastritis, and (4) chronic esophagitis and periesophagitis.

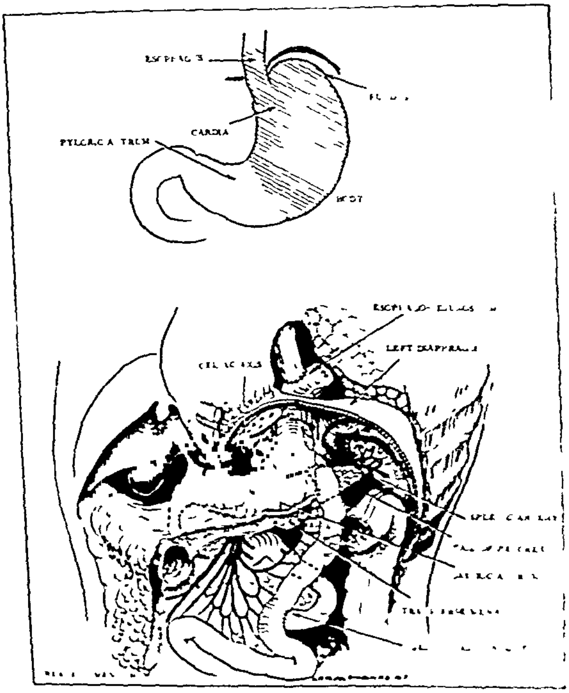

Fig. 2.—Schematic representation of operative procedure.

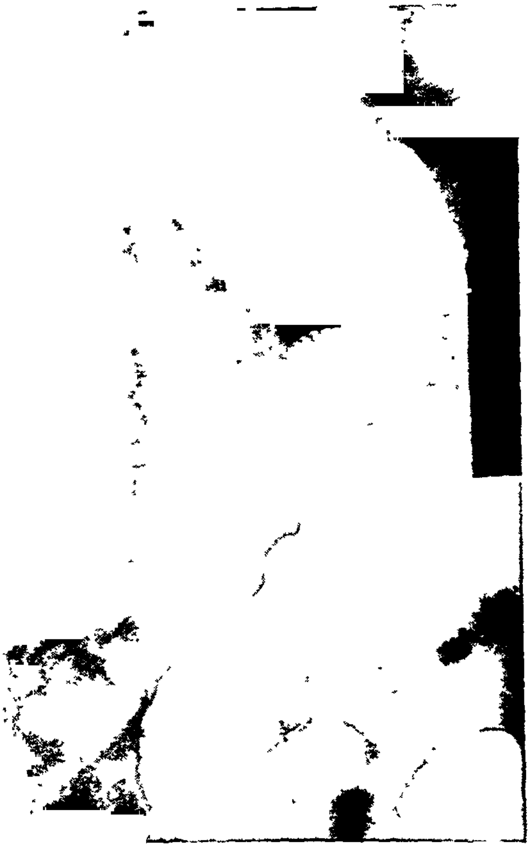

Fig. 3.—Postoperative roentgenogram of upper part of tract, showing flow of barium through gastric remnant.

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Convalescence since the patient left the hospital has been uneventful. She has been taking a bland diet without complaints or symptoms suggestive of any recurrence of the esophagitis. Up to the time of writing she has gained 15 pounds (6.8 Kg.) in weight.

COMMENT

Both the esophagus and the duodenum are subject to the action of the acid peptic juice of the stomach. The esophagus is less resistant to digestion than the duodenum, although the duodenum is in the more vulnerable anatomic position. Conflicting opinions prevail as to the treatment of peptic esophagitis, just as there are divergent opinions as to the treatment of duodenal ulcer. In certain cases these can be treated by medical means, while others can be cured only by surgical treatment, particularly those associated with complications as in case here reported.

Numerous surgical procedures have been proposed. Some[3] have suggested simple subtotal gastric resection in order to reduce acid secretion, and others have performed some form of esophagogastrectomy, with resection of variable proximal segments of the stomach. When the stomach is anastomosed directly to the esophagus, esophagitis has been known to recur later in a considerable percentage of patients.

Allison[4] stated that any form of esophagogastrostomy is to be avoided when one attempts surgical correction of the complications of reflux esophagitis. He prefers to resect the involved area (esophagogastric region), close the open end of the distal gastric remnant, leaving it *in situ,* do a pylorotomy and anastomose the esophagus to a Roux en Y loop of jejunum. This procedure, however, does prevent the food from coming into contact with the bile and pancreatic juices, and the patient is also deprived of a gastric reservoir.

Merendino[5] and his associates have advocated the use of a limb of jejunum for interposition between the esophagus and the gastric remnant after resection of the lower end of the esophagus and the upper segment of the stomach. They have demonstrated no unusual susceptibility of the jejunum to acid peptic digestion, and it will be interesting to follow these patients longer for the possible recurrence of symptoms or pain.

The surgical procedure suggested in this presentation[6] and applied in the case reported (a four-fifths proximal gastrectomy and vagectomy) has relieved the obstruction in the esophagus and reduced acid peptic secretion. The continuity of the digestive tract was reestablished in as nearly normal a fashion as was possible. The interposition of the gastric remnant affords the patient a gastric reservoir and the benefit of physiologic antral action. In addition, the passage of food through the gastric remnant and into the duodenum, where it mixes with bile and pancreatic juices, assures the patient of more nearly normal activity and subsequent assimilation.

RÉSUMÉ

Un cas d'oesophagite peptique avec complications rares est présenté, où a été pratiquée une oesophagogastrectomie avec oesophagojéjunostomie en Y selon Roux. Cette technique est proposée pour d'autres affections de la région oesophagogastrique, afin de prévenir l'oesophagite postopératoire.

RIASSUNTO

Viene presentato un caso di esofagite peptica con complicazioni insolite, trattato mediante esofagogastrectomia con esofagodigiunostomia e interposizione del moncone gastrico residuo. Questo metodo viene suggerito anche per altre lesioni della regione esofagogastrica allo scopo di evitare l'esofagite post-operatoria.

RESUMEN

Se trata de un caso de esofagitis péptica con complicaciones poco frecuentes. Se practicó una esofagogastrectomía con interposición del remanente gástrico en una esofagoyeyunostomía y una Y a lo Roux. Tal procedimiento puede adoptarse para prevenir la esofagitis postoperatoria en otras lesiones esofago-gástricas.

ZUSAMMENFASSUNG

Es wird über einen Fall von peptischer Speiseröhrenentzündung mit ungewöhnlichen Komplikationen berichtet. Es wurde eine Speiseröhrenmagenresektion mit Einschaltung des Magenstumpfes in die Y-förmige Rouxsche Oesophagojejunostomosis ausgeführt. Dieses Verfahren wird zur Behandlung anderer Erkrankungen der Speiseröhrenmagengegend zur Vorbeugung postoperativer Speiseröhrenentzündung empfohlen.

SUMARIO

Apresenta um caso de esofagitie peptica com raras complicações. Realisou uma gastroesofagectomia com interposição da porção gastrica na esafagojejunostomia pela técnica de Roux em Y. Sugere o uso desse método para outras entidades no sentido de prevenir o aparecimento da esofagite.

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> It is a commonplace that scientific discovery, proceeding ever at greater speed, has transformed all political issues. A nation that does not use science, both for research and production, will soon be unable to feed, much less to defend, itself, for it will neither be able to compete in the world's markets nor give its people the standards of life they demand. It may be predicted that even an iron curtain will not always hide from any people their own relative hardship compared with those who are more advanced. And medicine, which has always demanded some degree of centralized control, has more to gain even than industry from organization designed to subsidize clinical and laboratory research.
>
> —*Ogilvie*

Femoral Hernia:
The Collar Stud Operation

K. P. S. CALDWELL, M.A., F.R.C.S. (Eng.), F.I.C.S.
EXETER, ENGLAND

THERE are many ways of repairing a femoral hernia, but I have no hesitation in putting forward the idea here presented, as it is far simpler than any other method I have seen described and, in my opinion, more rational.

Femoral hernia is not uncommon, certainly not rare.[1] In the Royal Devon and Exeter General Hospital, which deals with about 2,300 surgical admissions a year, about 15 patients annually are admitted for femoral hernia. The anatomy needs no detailed description. The treatment for this condition lies in excising the sac at its neck, and this is best done above the inguinal ligament. In many cases there is little doubt that this procedure alone will effect a cure. Recurrences up to 15 per cent, however, are admitted in most reported series, and the canal is better closed. Aird[2] described the routine procedures as "extravaganzas" and dismissed the possibility of recurrence. The gap to be closed is bounded on three sides by strong structures, Gimbernat's, Cooper's and the inguinal ligament, and on the fourth by the femoral vein. To close this small gap many ingenious surgical devices have been put forward, but most surgeons seem to agree that sewing in this small area is not easy, and the stitches are difficult to place as accurately as they appear to be placed in the illustrations.

For a long time it has appeared to me that all that is necessary is a "collar stud" inserted into this place, the flanges holding it in position, thus filling this narrow gap.

Until 1950, when the possibilities of polyvinyl sponge were shown, no suitable material to form this collar stud was known to me. Through the introduction of this substance, however, one has a material easily malleable when wet, acceptable to the body, becoming incorporated into the body and filling in the gap with a solid matrix.

I have been doing this operation now for some time and am delighted with the ease of the procedure and with the results. It does not require a long article to describe the operation. The hernia repair is as follows: A curved incision is made, starting parallel to and above the inguinal ligament and curving down across the

The author recommends an operation for femoral hernia that can be done even by surgeons not widely experienced and also by those who must cope with femoral hernia under conditions that are not the best possible. In 2 cases of strangulated hernia requiring resection of the bowel, no sepsis or discharge from the wound was encountered. This possibility, therefore, apparently offers no contraindication to its use. It has given good results, to the author's knowledge, even when performed by members of the resident staff.

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Polyvinyl sponge, 1 inch (2.5 cm.) thick, is boiled up from cold in distilled water in any suitable flat pan. The apparatus for this is not usually available in the sterilizing room, but an open ring, such as is used to make tea, is usually available near at hand. The sponge, after being brought to the boil, is boiled for twenty minutes. It is then carried in the same pan into the operating room. This sponge is soft and easily cut with scissors. A piece is cut off and shaped to fit the gap in the individual case; it is then pressed through the canal from one side, where it is seen to adapt itself to the surrounding tissues in a way that no sewn patch could do. The side next to the femoral vein has been trimmed so that no pressure will fall on the vein, and all that remains is to close the wound, sewing up the external oblique tendon, the subcutaneous tissues and the skin.

The polyvinyl sponge takes about forty-five minutes to become reasonably firm, but during this time I have observed no risk of recurrence or of displacement of the sponge.

I have reoperated on 1 patient, the first in whose case I employed this technic, because a lump appeared in the groin some months after the operation and I was concerned to see whether the hernia had recurred and how the polyvinyl sponge was behaving. At operation the hernia repair was absolutely solid. The lump was a node which, on section, showed only chronic inflammatory reaction, for which no cause was discovered. I have had no trouble in any other case.

The ease with which this operation can be done should, it seems to me, recommend it particularly to the less experienced surgeon who frequently has to cope with femoral hernias under conditions less than the best. In 2 cases of strangulated hernia requiring resection of the bowel neither sepsis nor a discharge from the wounds has occurred. Intestinal resection, therefore, would appear to be no contraindication to the procedure.

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RIASSUNTO

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nécessitant une résection intestinale il ne s'est pas produit d'infection ni d'écoulement de la plaie. A la connaissance de l'auteur les résultats ont été bons, même lorsque l'opération avait été pratiquée par des assistants.

RESUMEN

El autor recomienda la operación de la hernia femoral, que puede ser ejecutada por cirujanos de poca experiencia o por los más experimentados, en condiciones que no son lo mejor posible.

En dos casos de hernia extrangulada que requiríeron resección de intestino no se encontró sepsis o exudado de la herida operatoria. Así pues parece que no existan contraindicaciones del método recomendado por el autor.

SUMARIO

Descreve uma tecnicap para tratamento da hernia femural e diz que ela pode ser usada por qualquer cirurgião. Descreve 2 casos sem complicações. Pelas possibilidades acha que não há contraindicação para êsse processo cirurgico.

ZUSAMMENFASSUNG

Der Verfasser empfiehlt eine Operation der Femoralhernie, die auch von weniger erfahrenen Chirurgen und von solchen, die gezwungen sind, unter nicht allzu guenstigen Bedingungen zu operieren, ausgefuehrt werden kann. In zwei Faellen eines eingeklemmten Bruches, die eine Darmresektion erforderlich machten, kam es weder zu septischen Erscheinungen noch zu einer Absonderung aus der Wunde. Solche Komplikationen bilden also offenbar keine Gegenindikation zur Ausfuehrung des Eingriffs. Nach den Erfahrungen des Verfassers kommt es zu guten Resultaten, auch wenn die Operation von jungen Assistenten vorgenommen wird.

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All the progress which medical science has made is a history of man's attempt to stay on this planet as long as possible. Old age many fight and many fear, but, as a French philosopher once remarked, growing old is the only way we have of prolonging our days.

It is not the province of the physician to decide who paints the truer picture of old age—Cicero, with his description of the satisfactions of old age in his *De Senectute*, or Horace, with a less pleasant picture of the old man, whose loose teeth rattle in his skull. Rather we would look at life with the thought of the Stoic philosopher Marcus Aurelius: "Thou hast embarked, thou hast made the voyage, thou art come to shore; get out!" and attempt to make the voyage as pleasant, as interesting, and as long as possible.

—*Major*

Sodium Alginate of Lowered Polymerization (Alginon)

A New Plasma Expander

MASANOBU TOMODA, M.D., F.I.C.S.*
AND
KIYOSHI INOKUCHI, M.D., D.Sc., F.I.C.S.**
FUKUOKA, JAPAN

The authors report their results with the use of a new plasma expander based on sodium alginate and known as Alginon, which has been devised through their efforts to determine the optimum degree of polymerization that can satisfy two requirements; first, the prevention of undesirable side effects, and second, stabilization of the circulatory system. Six illustrative cases are reported.

THE study of sodium alginate as a plasma expander was commenced in our clinic in 1944. In 1949 alginate was initially introduced under the commercial name of "Algin," and through clinical use we were able to prove it to be excellent as a plasma expander. This was further confirmed by many investigators. In view of the fact, however, that "Algin," when administered in large amounts, produces transient petechiae of the skin, we devoted our efforts to improving this preparation, and in 1955, by reducing the degree of polymerization to a certain value, we obtained an excellent plasma expander (new conditioned alginate of lowered polymerization, named "Alginon"), which has an effective action on the circulatory system without causing any adverse effects. This paper is an introduction to Alginon.

Progress Report on Study of Alginon.—Since the topographic features of Japan, an insular country, endow us with rich resources of sea algae, utilization of these algae as a material for plasma expansion was seriously attempted. After much research on the high polymers in sea algae, Rin,[1] one of our associates, discovered in 1944 that the saline solution of sodium alginate contained in the cell membrane of brown algae had a decided life-saving effect against acute blood loss in animals, and Tomoda with his associates (Rin, Inoue, Miyakoshi, and others[1]) discovered, through clinical use, that this solution was promising as a plasma expander. These new facts were reported at the meeting of the Education Ministry's Research Team on Blood Transfusion and Blood Substitutes in 1944 and also at the eighty-second meeting of surgeons in Fukuoka in 1945. In 1948, Tomoda, Tsuchiya and Inoue[2] obtained a patent for a new method of purification, in which so-

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Written in collaboration with R. Aiko, T. Ariyoshi, K. Beppu, K. Chin, T. Harasawa, T. Higashi, T. Jinnai, C. Ichiyoshi, K. Ikeda, K. Inoue, R. Inoue, A. Imaizumi, S. Izaki, S. Kamo, S. Kikuchi, A. Kikuchi, K. Kori, J. Koga, M. Kimura, Y. Konishi, M. Kurashige, M. Matsukuma, T. Mochida, S. Minami, T. Miyakoshi, S Miyaso, H. Matsubayashi, T. Moroe, S. Nishiwo, S. Ohta, T. Okamura, H. Okada, K. Okumura, Y. Owaki, I. Ohki, C. Rin, T. Shimizu, H. Sakurai, T. Tetsuo, R. Tsuchiya, M. Tamaoki, I Tsujimura, T. Takahara and K. Yoshida.

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dium peroxide was used to purify sodium alginate as a plasma expander.

A series of systematic studies was undertaken as follows to determine the optimum conditions in which alginate can be used as a plasma expander, as follows: In 1949 the minimum polymerization of alginate that does not pass through capillary walls was experimentally determined[3] to be approximately 0.072 in intrinsic viscosity* from the results of auricular irrigation of the rabbit: this was reported in the same year. Investigations of the biologic actions of alginate among its homologous series of polymerization revealed that, when the polymerization became high, the disturbance of the circulatory system became proportionally severe.[4] In addition, high-polymerized preparations showed a tendency to be deposited in tissue, giving rise to the appearance of giant cells in the spleen.[5] Sufficiently low polymerized preparations showed almost no side effects, but when the polymerization was too low it lost its high molecularity and behaved like a crystalline solution, losing its function as a plasma expander. Judging from these observations, it was provisionally determined that alginate with the intrinsic viscosity of approximately 0.24 would be optimal for use as a pratical plasma expander.[6] In 1949, at the annual meeting of the Japanese Society of Surgery, a plasma expander of this polymerization was described, which became commercially available under the trade name of "Algin" in the same year. The summary of this study was presented in *Kyushu Memoirs of Medical Science in 1950*[7] and in *Zentralorgan für die gesamte Chirurgie und ihre Grenzgebiete* in 1953.[8]

The marked pressor effect of "Algin" on decreased blood pressure and on decreased circulating blood volume due to blood loss was demonstrated. Its excellent action as a plasma expander was confirmed in many clinics, but it was noted that "Algin" was prone to produce transient skin hemorrhage when it was administered profusely. In a series of serious investigations to eliminate this adverse effect, Ikeda,[9] one of our associates, who studied the relation between the degree of polymerization of alginate and the development of petechiae, discovered that if polymerization was reduced to a certain value, petechial development could be prevented, as shown in Table 1, and also that the effect on the circulatory system was equal in excellence to that of "Algin."[10] Ikeda also found in this connection that the mere replacement of physiologic solution of sodium chloride in "Algin" with an isotonic dextrose solution, would not reduce this side effect. On the basis of these facts, we decided to produce a new expander with alginate of lower polymerization, the intrinsic viscosity being approximately 0.072, the value previously reported by us in 1949 as the minimal polymerization to prevent the passage of the polymer through the capillary walls. In this paper we wish to introduce the new preparation, an "alginate of lowered polymerization."

The alginate concentration of this new preparation was determined at 0.4 per cent, since the restorative effect of such concentration on blood pressure and circulating blood volume after acute blood loss was almost equal to that of the 1.2 per cent solution which is theoretically isotonic with blood plasma. A mixture of sodium chloride and dextrose was used as solvent, with consideration of the correction of electrolyte balance.

Our preparation was first reported on at the one hundred and fifth meeting of surgeons in Fukuoka in 1955, and the detailed review was presented at the Fourth Congress of the Japan Society of Blood Transfusion in 1956.[11] This was our new preparation of alginate, commercially designated as Alginon.

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*Intrinsic viscosity used in this paper is expressed in liter/gram, measured at 20 C. in 0.15 M sodium chloride aqueous solution.

Alginon is prepared as follows:

Sodium alginate (intrinsic viscosity about 0.072)		0.4 g.
Dextrose		5 g.
Sodium chloride		0.3 g.
Citric acid		0.00153 g.
Sodium phosphate		0.0452 g.
Distilled water	to make	100 cc.

Several years after the publication of our study, Takayama[12] prepared an alginate solution made by replacing the physiologic solution of sodium chloride in our Algin with the isotonic dextrose solution. This was commercially produced in 1951 under the name Glycoalgin. At the Fourth Congress of the Japan Society of Blood Transfusion in 1956, we stressed the importance of standardization of the optimal degree of polymerization (intrinsic viscosity, 0.072) in the intravenous alginate preparations, and asked Takayama about his standard of the degree of polymerization, because it had been ascertained by our investigations that the degree of polymerization of the Glycoalgin sold during the period of 1954 to 1956 was far from uniform. Takayama[13] replied that it was approximately 140* (as calculated by Heen's equation), and that the fluctuation in the degree of polymerization in the commercially sold Glycoalgin, if any existed, must be due to deficient control during its preparation. This statement and his recent publication (1957)**[14] have made it obvious that the degree of polymerization of his preparation is considerably higher than that of our Alginon.

Physicochemical Properties of Alginon.—Alginate is a water-soluble, high-molecular substance first reported by Stanford[15] in 1883, which is contained in the cell membrane of brown algae. It is a polymer of mannuronic acid, in which free carboxyl groups are involved. Alginate for clinical use is obtained by partial dehydrolyzation in alkaline solvent to a certain polymerization, and purification by repeated alcohol precipitation. The average molecular weight of alginate under the new condition is estimated at about 2×10^4 by the ultracentrifugal means as well as by the light scattering method, and the absolute value of the degree of polymerization, therefore, is approximately 100.[16] This value corresponds to the intrinsic viscosity of approximately 0.072, or the relative viscosity of approximately 1.31 at 20 C. in 0.15 M sodium chloride solution.

The colloidal osmotic pressure of Alginon is 9.5 cm. of water at 25 C., and 7.7 cc. of water when isotonic salt with blood plasma is added. This value is considerably lower than that of blood plasma. In spite of such hypotonicity, the amazing effect on the circulatory system is as has been explained, and it can be stated that the effect of alginate solution on the circulatory system is characterized by some unknown factor that may be unrelated to isotonicity.

Sodium alginate is chemically stable and reacts slightly with serum protein in a neutral solvent, especially with gamma-globulin, but in an acid solvent it reacts violently with all plasma protein, resulting in mutual coagulation.[16a] This latter reaction is utilized by Inokuchi,[17] one of the authors, for determination of the amount of alginate transfused in the body. Alginate produces an insoluble salt with polyvalent metals (excluding mercury and magnesium). This property caused some investigators to suspect that the transfused alginate will produce an insoluble complex with calcium ions in blood and consequently decrease the concentration

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*This statement means that the degree of polymerization of Glycoalgin is nearly the same as that of Algin and about three times higher than our new preparation, because that of Algin is calculated to be approximately 160, when Heen's equation is used.

**Takayama stated in a recent publication that Glycoalgin is adjusted to maintain a specific viscosity of 2; in other words, a relative viscosity of 3. This means that Glycoalgin possesses a higher degree of polymerization than does Alginon, even if a certain amount of salt is added.

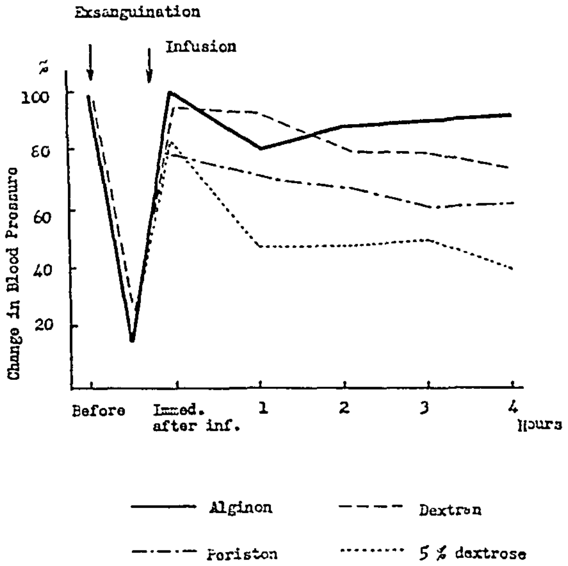

Fig. 1.—Comparison of effect of various infusion materials on exsanguinated rabbit's blood pressure. An infusion of 20 cc. per kilogram of body weight was made after exsanguination of same volume. Thick line represents infusion of Alginon; broken line, Dextran; chain line, Periston; dotted line, 5 per cent dextrose solution. This applies to Figs. 1, 2, 3 and 4 (Ikeda).

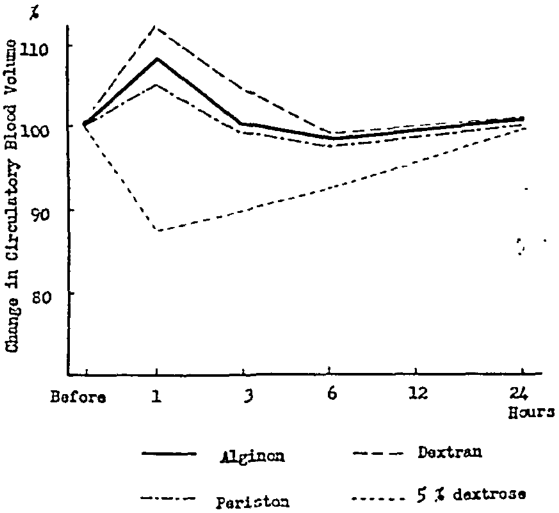

Fig. 2.—Comparison of effect of various infusion materials on exsanguinated dog's circulatory blood volume. Infusion of 20 cc. per kilogram was made immediately after exsanguination of same volume (Ohki).

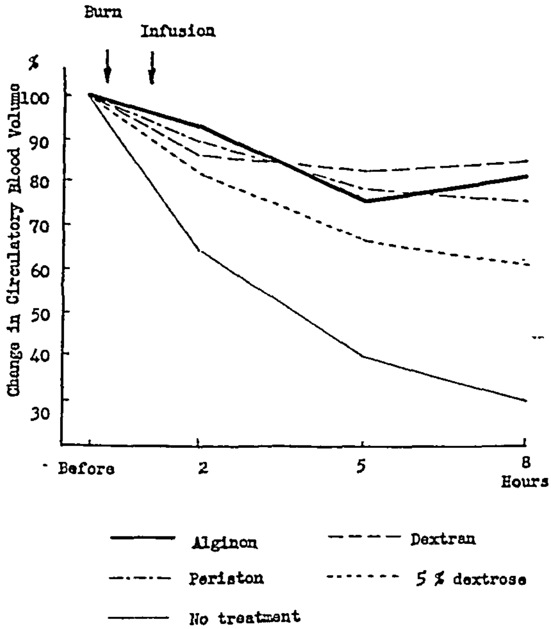

Fig. 3.—Comparison of the effect of various infusion materials on burned dog's circulating blood volume. Infusion of 25 cc. per kilogram was made respectively one hour after dog was burned over 40 per cent of body surface (Okamura).

of calcium ions in the blood. This suspicion, however, was eliminated by both theoretical and clinical facts. It has been experimentally demonstrated that, when various salts coexist with alginate, the apparent dissociation of alginate ions is so diminished that the combination of alginate with calcium ions in plasma is almost negligible. Quantitative determination of free calcium ions by ultrafiltrative as well as by dialytic means also showed that the decrease in calcium ions arising from the alginate transfusion is negligible.[18] Actually the ability of human blood to coagulate after transfusion of alginate was not decreased but on the contrary it was slightly increased.

Antigenicity of Alginate.—High purity is demanded of alginate for intravenous use. In a considerable series of clinical experiences with the administration of alginate containing less than 0.01-0.02 per cent (solid weight) of nitrogen, there has been no case in which side effects (antigen-antibody reactions) occurred. In various animal experiments, active or passive

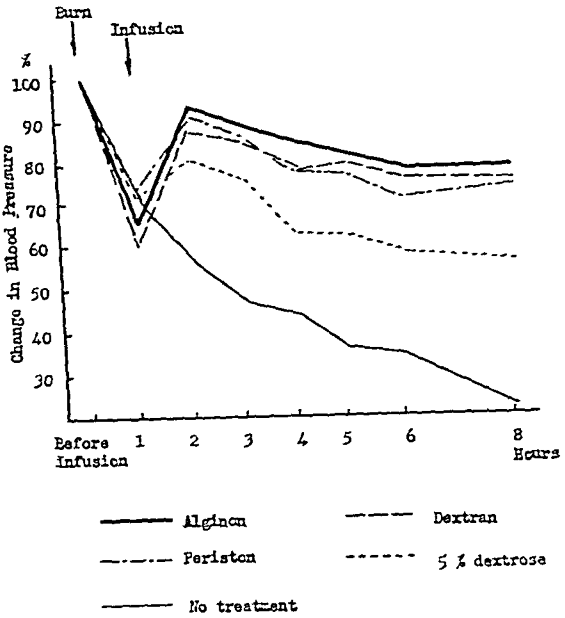

Fig. 4.—Comparison of the effect of various infusion materials on the burned dog's blood pressure. Infusion of 25 cc. per kilogram of infusion was made one hour after dog was burned over 40 per cent of body surface (Okamura).

anaphylaxis, Arthus' phenomenon, and half antigenicity were all negative (Sakurai).[19] In other clinical experiences antigenicity was negative.

Biologic Actions of Alginon.—1. *Effect on the Circulatory System in the State of Shock Due to Hemorrhage and Burns:* The efficacy of a plasma expander is best seen by its effectiveness in elevating the blood pressure in animals subjected to bloodletting. Experimental rabbits were deprived of 20 cc. of blood per kilogram of body weight, and after confirmation of the impression that spontaneous recovery was impossible, the same volume of Alginon was intravenously administered. There was a pronounced rise in blood pressure, the results of which were better than those obtained with Periston (Bayer) and Dextran (Meito) and far superior to those obtained by a single administration of 5 per cent dextrose (Fig. 1).[10] The effect on the circulating blood volume was

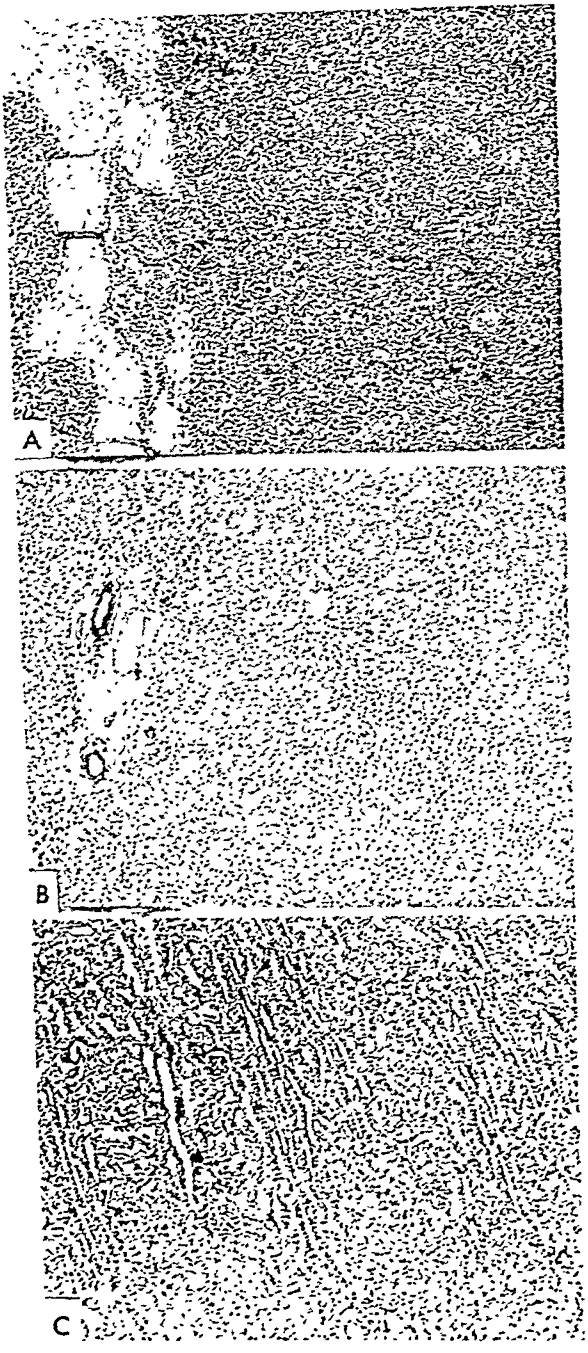

Fig. 5.—*A*, photomicrograph of human spleen on the third day after infusion of Alginon in dose of 30 cc. per kilogram of body weight (hematoxylin and eosin).[1] No giant cells appeared. *B*, histologic appearance of liver of rabbit on third day after infusion of Alginon in dose of 30 cc. per kilogram (hematoxylin and eosin). *C*, histologic appearance of rabbit kidney on third day after infusion of Alginon in dose of 30 cc. per kilogram (hematoxylin and eosin).

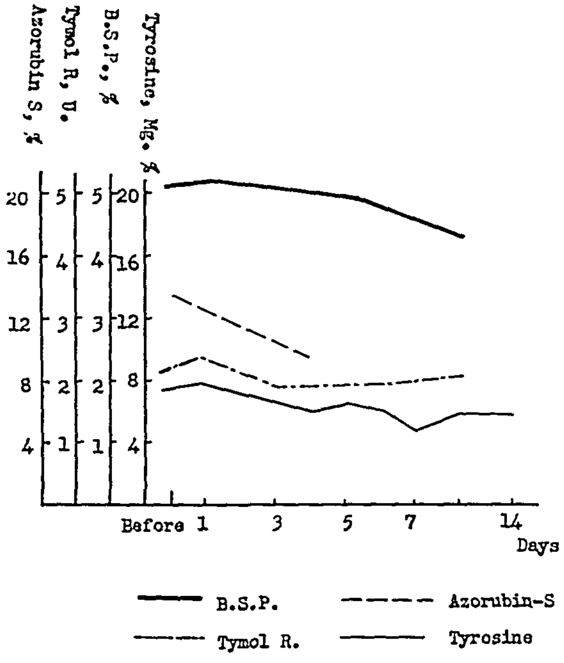

Fig. 6.—Change of liver function in man, after infusion of 25 cc. of Alginon per kilogram of body weight. Thick line represents test of B.S.P.; broken line, Azorubin S; chain line, thymol reaction; thin line, concentration of tyrosine in urine.

comparable to the effect on blood pressure (Fig. 2).[10b] The effect was equally good in cases of shock after severe burns (Fig. 3, 4, Okamura).

2. *Histologic Observations:* Administration of 25 cc. per kilogram of Alginon did not cause any histologic change in the spleen (Fig. 5*A*), liver (Fig. 5*B*), kidney (Fig. 5*C*), adrenal gland, lung or brain (Kikuchi).[20] Pulmonary edema could not be detected either by histologic examination or by determination of the pulmonary fluid content in animals which had undergone lobectomy of the right upper lobes and had then been given Alginon in a dose of 25 cc. per Kg (Harasawa, Nishio).

3. *Effect on the Various Biologic Functions:* Tests of liver function, such as B.S.P., T.T.T., tyrosine concentration in urine, and azorubin-S excretion tests showed normal values in human subjects given 25 cc. per kilogram of Alginon (Fig. 6, Matsukuma, Mochida). The Glycogen level in the liver (Shimizu, Moroe) and the dextrose utilization rate were moderately increased (Ohki). In rabbits, impairment of hematopoietic organs was not observed (Ariyoshi). Renal function tests of human subjects given 25 cc. of Alginon per kilogram of body weight showed significant increases in such levels as those of urinary output, glomerular filtration rate and renal blood flow volume (Okamura). Normal adrenal function was also confirmed (Beppu, Ohki).

4. *Fate of Alginate in the Body:* The fate of alginate was followed in human subjects who were given Alginon in a dose of 25 cc. per kilogram of body weight. Approximately 70 per cent of the alginate transfused was excreted within twenty-four hours, and within several days it disappeared completely from the blood and urine (Fig. 7, Okamura[21]). In rabbit experiments the deposit of alginate in such organs as the spleen, liver, kidney, adrenal gland, lung and brain disappeared within the first week after administration of 25 cc. of Alginon per kilogram (Okamura). These findings indicate that Alginon has a proper period of retention in the blood without depositing itself in tissue.

5. *Ability of Alginon to Promote Excretion of the Histamine-Like Toxin after Burns:* Excretion tests of toxin as histamine produced after burns were performed in rabbits to which 25 cc. of Alginon per kilogram was administered just after burns. The days required for the complete excretion of histamine were appreciably shortened with Alginon as compared with a single infusion of dextrose or saline solution. The rate of toxin excretion is highest with Pereston-N, followed by Alginon, Periston, Algin (higher polymerized alginate), Dextran, and crystalline solutions, as is shown in Fig. 8 (Okamura). These results may lead us

to expect favorable treatment of burns with Alginon.

6. *Antihemodiluting Effect of Alginate after Alginon Infusion:* The characteristic of Alginon is the antihemodiluting action of Alginon is the antihemodiluting effect that follows its infusion. It is a well-known fact that, after infusion of simple physiologic solution of sodium chloride, dilution occurs in the peripheral blood in proportion to the volume of liquid infused. Blood dilution, therefore, was expected in the administration of Alginon, since it contains no blood cells. On the contrary, it was clinically and experimentally observed that blood dilution was almost negligible after infusion of Alginon in a dose of 10 cc. per kilogram, whereas infusion of Dextran, and dextrose solution resulted in hemodilution to a considerable extent (Fig. 9, Konishi). Investigations of the distribution of blood cells after infusion of Alginon revealed that the hemoglobin content, as well as the hematocrit value, decreased only in the splenic vein, that of the hepatic vein, the splenic artery and the peripheral blood remaining unchanged after the infusion. These data led us to assume that the hemodilution following alginate infusion is buffered through the spleen by the stimulation of that organ, which drives out the reserve blood into peripheral blood system so that blood concentration in the periphery is almost constant. This phenomenon was also observed with Algin, the higher-poly-

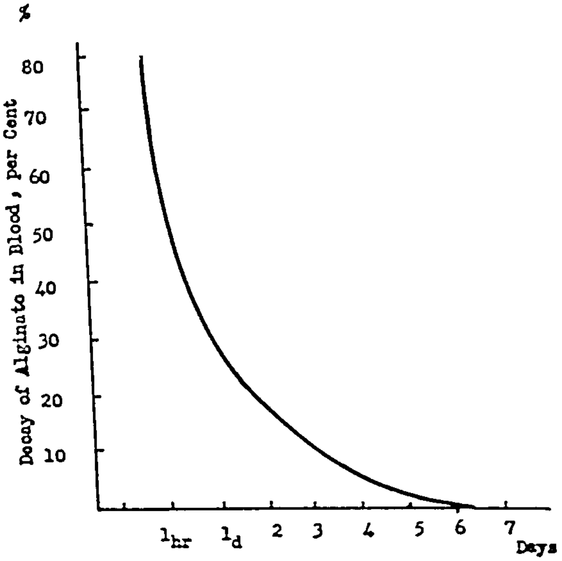

Fig. 7.—Decay of sodium alginate in human blood when 20 cc. of Alginon per kilogram is infused. Mean value for 18 cases is shown (Okamura).

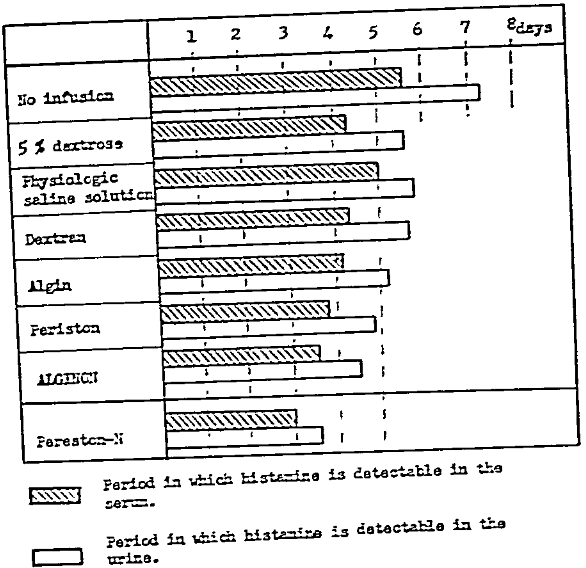

Fig. 8.—Comparison of effect of various infusion materials on the burned rabbit's histamine excretion ability. Infusion of 25 cc. per kilogram was made on first and second day (Okamura).

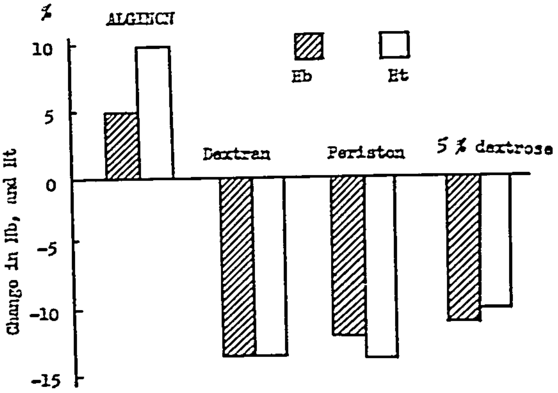

Fig. 9.—Change in hemoglobin level and hematocrit value of dog's peripheral blood after infusion of various solutions. Values taken 90 minutes after infusion of 10 cc. per kilogram, which followed exsanguination of same volume. Peculiar behavior of Alginon is noted (Konishi).

merized preparation of alginate, and is probably not specifically related to the low polymerization of Alginon. It is due to alginate itself, not due to the degree of polymerization.

Conclusion: In short, Alginon is characterized by (1) an excellent stabilizing effect on the circulatory system, (2) ability to eliminate side effects through appropriate low polymerization, (3) an antihemodiluting effect after injection, and (4) ability to promote rapid excretion of toxin.

Clinical Application, Especially in Emergency.—Accumulated data on the clinical dose have indicated that the maximum daily dose of Alginon for an adult is 25 cc. per kilogram of body weight. According to the results of animal experiments, daily injection of 20 cc. per kilogram for three consecutive days, or the same dose every other day or every two days, may be permissible. In clinical experiments Alginon produced very slight side effects. Of a total of 477 cases there was fever in 0.8 per cent; chills occurred in 0.8 per cent, and other complications were almost negligible. This incidence is low and does not differ much from that associated with crystalline transfusion.[23] Transient cutaneous hemorrhage appearing after a massive dose of Algin did not occur with Alginon, as has been shown.

Because of its stabilizing effect on the circulatory system, Alginon was considered for the treatment and prevention of shock. Numerous experiences have shown its effectiveness for shock following massive hemorrhage, high degree burns or spinal anesthesia. The administration of Alginon before, during and after operation to supply fluid prevented the decrease of circulating plasma volume and also acted as a prophylactic against shock. The following cases are typical.

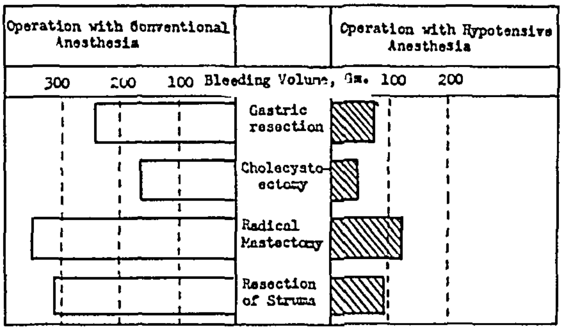

Fig. 10.—Comparison of bleeding volume in operations performed with hypotensive and the conventional anesthesia. Gastric resection and cholecystectomy with hypotensive anesthesia were performed with "cocktail" spinal anesthesia; radical mastectomy and resection of struma, with Methobromin or Arfonad.

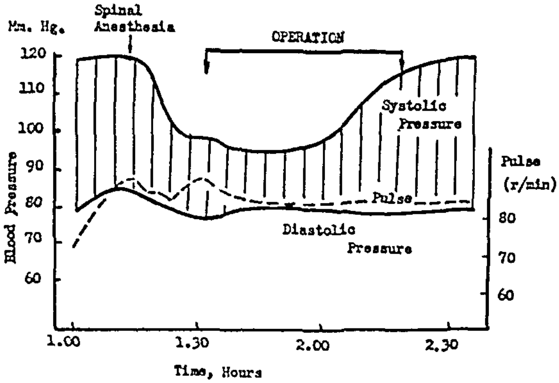

Fig. 11.—Case of gastric resection for ulcer with "cocktail" spinal anesthesia. Bleeding volume in operation, 38 Gm. Infusion of 600 cc. of Alginon and 1,200 cc. of 5 per cent dextrose solution were made on the operative day. No blood transfusion was given before, during or after operation.

CASE 1.—Alginon was used for shock due to peritonitis in a man aged 40 whose condition had been diagnosed as acute pancreatitis. On the twelfth day before admission the patient had severe pain in the upper part of the abdomen, which was temporarily relieved by injection of narcotics. Two days later he had a similar attack of pain, with marked distention of the upper part of the abdomen. Several hours after admission rigidity of abdominal muscle suddenly occurred, accompanied by a sudden fall of blood pressure to approximately 40 mm. of mercury systolic. As it was obvious that the patient was in shock, 600 cc. of Alginon was infused. After the infusion the systolic blood pressure rose to 90 mm. of mercury, and laparotomy and drainage of pus were performed. The patient was given 400 cc. of blood and some crystalline solution postopera-

TABLE 1.—*Elimination of Petechial Development by Reducing the Degree of Polymerizatin of Sodium Alginate*

Solutions Infused	*Intrinsic Viscosity (l/g)*	*Dose Intravenously Infused*	*Petechial Cases*	*Incidence of Petechiae*
			Total Cases	
"Algin" (high polymerized alginate)	ca. 0.24	15 cc./Kg.	8/50	16%
"Alginon" (low polymerized alginate)	ca. 0.072	14-25 cc./Kg.	0/104	0%

tively. He was discharged on the twenty-eighth day, after a good postoperative course.

CASE 2.—Alginon was used for traumatic shock in a 23-year-old woman. The diagnosis was traumatic retroperitoneal bleeding with fracture of the os pubis. While walking, she had been struck by a tram and was admitted as an "emergency case." On admission the pulse was impalpable, and the blood pressure in millimeters of mercury was 50 mm. systolic. Immediately 500 cc. of Alginon was infused, and fifteen minutes later the systolic blood pressure rose to 90 mm. of mercury. Laparotomy was performed with hemostasis to control retroperitoneal bleeding. During the operation, owing to the low hemoglobin level (45 per cent, Sahli), 800 cc. of blood was transfused. The operation was completed without incident. The postoperative systolic blood pressure was 110 mm. of mercury, and it remained at this level.

CASE 3.—Alginon was used for spinal anesthetic shock in a man aged 45. The diagnosis was gastric ulcer, with stenosis of the pylorus. Preoperatively the hemoglobin level was 100 per cent; and that of plasma protein 5.8 Gm. per deciliter. The blood pressure in millimeters of mercury was 114 systolic and 80 diastolic. The pulse rate was 72.

Laparotomy was performed with the patient under the conventional spinal anesthesia. Five minutes after the induction of spinal anesthesia the systolic blood pressure fell to 60 and the pulse rate to 55, and facial pallor and dyspnea developed. Alginon was immediately given in a dose of 600 cc. because of the state of shock. Twenty minutes after the start of the infusion the blood pressure rose to 70 mm. of mercury systolic and 45 diastolic, and fifteen minutes later it rose to 110 systolic and 65 diastolic. After successful treatment of the so-called "spinal shock," gastric resection was completed. The patient was completely recovered on the twenty-fifth postoperative day and was discharged.

CASE 4.—Alginon was used for prevention of spinal anesthetic shock in an 11-year-old boy. The diagnosis was acute perforative appendicitis. On admission the blood pressure in millimeters of mercury was 105 systolic and 70 diastolic and the pulse rate 120 per minute. The patient was in a state of dehydration, not having taken a meal since the onset of the illness. Alginon was given intravenously, therefore, in a dose of 600 cc., prior to the operation. The blood pressure did not fall much after the spinal anesthesia, and shock was successfully prevented by the Alginon infusion. The operative and postoperative courses were uneventful.

CASE 5.—Alginon was used in the treatment of burn shock in a 6-year-old boy weighing 14 Kg. The diagnosis was burns, second degree, about the lower extremities. The patient had been burned when his clothes caught fire. He was admitted to the hospital with cloudy consciousness. On admission the blood pressure in millimeters of mercury was 70 systolic; the hemoglobin level, 75 per cent (Sahli), and the plasma protein level, 5.4 Gm. per deciliter. Three hundred cc. of Alginon was immediately infused. The blood pressure gradually rose to 80 systolic three hours after the infusion, and to 95 twelve hours after the infusion. The hemoglobin level temporarily increased to 82 per cent immediately after the infusion and dropped to 73 and 76 per cent, at the third and twelfth hours after infusion, respectively. Hemoconcentration was considered favorably prevented by Alginon. The patient recovered consciousness one hour after the infusion, and a good convalescence followed.

Administration of Alginon During Operation.—Matsubayashi,[23] one of our associates, has obtained some interesting results in the management of transfusion during operation. His investigations indicate that if the blood lost during the operation exceeds 300 to 400 Gm., a transfusion of blood equivalent in amount to the loss (measured by the weight method), or a transfusion of crystalline solution, caused a considerable decrease in the circulating blood volume on the day of operation. Even if the volume of the blood transfused was greater than that of the blood lost (maximum, about 50 per cent in excess of the volume of blood lost), a decrease in the circulating blood volume could not be prevented, though this decrease was somewhat smaller than in the instance aforementioned. Administration of alginate solution in a dose of 900 cc. on the day of operation, together with blood or crystalline solution, could minimize the decrease in the circulating blood volume. In short, we are now in a position to state that alginate infusion in a dose of 10 to 15 cc. per kilogram is recommended to stabilize the postoperative circulatory system in surgical intervention, regardless of the amount of blood transfused.

Administration of Alginon Aiming at Reduction of the Volume of Blood Transfusion.—Nothing would be more welcome to surgeons than the certainty that the volume of blood lost at operation could be reduced to such an extent that blood transfusion would not be necessary. For the purpose of reducing the volume of bleeding various studies were made to obtain a comparatively safe hypotension anesthesia. After many attempts, we observed that, in case of an abdominal operation, a slight degree of hypotension (about 90 mm. of mercury) could be brought about by spinal anesthesia preceded by autonomic blocking agents together with instillation of a controlled amount of norepinephrine during the operation.[24] When abdominal operations were conducted by this method, the blood lost was reduced to one third to one half of that lost under the methods previously used; the volume was below 100 Gm. regardless of the kind of operation (Fig. 10). In view of this small blood loss, it was felt that even without any blood transfusion it would be safe and sufficient if the circulatory instability brought about by anesthesia and surgical maneuvers could be removed by the infusion of plasma expander. Thus, by applying this anesthetic method to the laparotomy for benign diseases, with the patient in relatively good preoperative condition, the amount of blood transfused was reduced as much as possible, and instead, 600 to 900 cc. of Alginon was infused on the day of operation. Of the 127 laparotomies thus performed, treatment was successful in 102 without any blood transfusion before, during or after the operation, and in the remaining cases a blood transfusion in the proper amount was given, depending upon the preoperative and postoperative condition of the patient. This indicates that, in the majority of cases of laparotomy for benign disease, operation can be performed safely without blood transfusion by this method of anesthesia and the use of Alginon. Though no blood transfusion was given in the aforementioned cases, the clinical course was normal, with no remarkable changes in the results of various laboratory tests, such as concentration of blood constituents (hemoglobin, plasma protein, etc.), circulating blood volume, electrocardiogram, tests of renal and hepatic function and bone marrow hemograms of the bone marrow.

Some may take the view that for patients with limited hemorrhage it would be sufficient to supply liquids through crystalline solutions only, without using Alginon. For controls we handled several gastrectomies in this way, using crystalline solution only and omitting both transfusions and the use of Alginon. From these experiences we have learned that there is a considerable decrease in circulating blood volume one to two days after an operation. If, however, 600 to 900 cc. of Alginon is given on the day of operation, there is no decrease in the circulating blood volume. For procedures in which the surgical maneuvering is considerable, e.g., gastrectomy, it must be noted that it is impossible to restore circulatory stability merely by the use of crystalline solution and that in such cases the infusion of a plasma expander, such as Alginon, is indispensable.

For such hypotensive operations appropriate indications are necessary, as well as properly managed anesthetic technic and postoperative care. According to our experiences, circulatory insufficiency (hypertension, cardiac and renal impairments), severe anemia, hypoproteinemia, advanced age and infancy were omitted, as a rule, from our list of indications.

CASE 6.—A 49-year-old man was admitted to the hospital with the typical history of gastric ulcer, which had continued for two years. The pulse rate was 64 per minute; the plasma protein level, 7.1 Gm. per deciliter. There was occult blood in the stools. No abnormalities were revealed by cardiac, hepatic, renal and other functional tests. A Billroth I gastric resection (Tomoda's modification) was performed by the hypotensive anesthetic method aforementioned. P-391 (Pacatal) was used as a basal anesthetic, in a dose of 150 mg., before spinal anesthesia was induced. During operation the systolic blood pressure was kept at about 90 mm. of mercury; it was gradually raised to the normal level at the end of the operation under the controlled instillation of norepinephrine-dextrose solution (Fig. 11). The bleeding volume during operation was only 38 Gm. On the operative day, 600 cc. of Alginon and 1,500 cc. of dextrose solution were transfused, blood transfusion not being done before, during or after the operation. The postoperative course was uneventful. The patient was completely recovered on the twenty-sixth postoperative day and was discharged.

In brief, we have attempted to demonstrate that some surgical procedures that have not in the past been performed without whole blood transfusion can be done without resorting to whole blood transfusion if Alginon is used.

Rational indications for the use of Alginon through the operative course can be summarized as follows:

1. For preoperative dehydration, Alginon is recommended for the prevention of shock during and after operation.
2. In relatively difficult operations, regardless of the volume of blood transfused, administration of Alginon in a dose of 10 to 15 cc. per kilogram of body weight on the operative day is recommended, together with the crystalline solutions.
3. "Cocktailed" spinal anesthesia, which brings about slight hypotension, is recommended for benign abdominal diseases except those associated with circulatory insufficiency (hypertension; cardiac, or renal impairments), severe anemia, and hypoproteinemia, those occurring in patients of advanced age and those occurring in infants. In these cases the bleeding volume during operation generally can be limited to less than 100 Gm., and administration of Alginon in a dose of 10 to 15 cc. per kilogram on the operative day would bring about a good operative course without resort to whole blood transfusion.

SUMMARY

A decade's study since 1944 to originate a new plasma expander from sodium alginate, abundant in Japan, has been successfully completed in the form of a "new conditioned alginate of lowered polymerization" (now available as Alginon) in 1955. This work is the result of the authors' effort to determine the optimum degree of polymerization that satisfies two requirements: preventing side effects (especially petechial development following massive administration), and obtaining a sufficiently stabilizing effect on the circulatory system.

This preparation differs substantially from Glycoalgin, which, several years after the publication of the authors' study, was reported by Takayama after further study of their alginate plasma expander,

and which is assumed to possess higher degree of polymerization. Because of the optimal low polymerization of the new preparation, the side effects, mainly petechiae, are abolished. The shock state due to hemorrhage, burns or various causes is cured by its pressor action on the blood pressure and its action to increase the circulating blood volume, and in addition toxin excretion after burning is accelerated. The transfusion of this preparation also demonstrated characteristic antihemodiluting effects. Moreover, the administration of this preparation has shown promise for maintaining circulatory stability during operation and also acts as a shock preventive in routine operative cases. The use of this expander has enabled the authors to perform operations without whole blood transfusion in some cases in which it would otherwise have been required.

Alginate has been used chiefly in the industrial world. It was the authors' original idea to use this substance for intravenous use. Their new alginate plasma expander, Alginon, has shown its effectiveness as comparable with Dextran and Periston, and, in addition, it is not expensive. It is hoped that Alginon may achieve world-wide acceptance and use by clinicians.

ZUSAMMENFASSUNG

Eine zehnjährige Forschungsarbeit, die im Jahre 1944 begonnen wurde mit dem Ziel, aus Natriumalginat einen neuen Plasmastrecker zu gewinnen, ist zu einem erfolgreichen Abschluss gelangt. Unter dem Namen "Alginon" ist jetzt ein neues Alginat, das in Japan in grossen Mengen vorhanden ist, erhältlich. Das neue Präparat ist von niedrigerer Polymerisation und wurde im Jahre 1955 zum ersten Male hergestellt. Die Verfasser hatten es sich zur Aufgabe gemacht, den Grad von Polymerisierung zu bestimmen, der zwei Forderungen in möglichst hohem Mass erfüllte, nämlich erstens die Verhütung von Nebenerscheinungen (von petechialen Blutungen nach Verabfolgung grosser Mengen) und zweitens die Erzielung einer ausreichenden Stabilisationswirkung auf das Kreislaufsystem.

Das Präparat unterscheidet sich wesentlich vom Glycoalgin, über das Takayama einige Jahre nach der Veröffentlichung der Arbeit der Verfasser und anschliessend an seine eigenen Untersuchungen des Alginat-Plasmastreckers der Verfasser berichtete, und das einen höheren Grad von Polymedisation besitzen soll. Dank der optimal niedrigen Polymerisation des neuen Präparates sind Nebenerscheinungen, besonders punktförmige Hautblutungen, ausgeschaltet worden. Das durch Blutungen, Verbrennungen oder andere Ursachen hervorgerufene Schockstadium wird durch die blutdruckerhöhende Wirkung des Präparats und durch die eintretende Vergrösserung der zirkulierenden Blutmenge beseitigt; darüber hinaus tritt nach Verbrennungen eine beschleunigte Ausscheidung von Giftstoffen ein. Nach Transfusionen mit diesem Präparat zeigten sich auch charakteristische einer Blutverdünnung entgegenwirkende Einflüsse. Ferner verspricht die Anwendung des Präparats die Aufrechterhaltung der Stabilität des Kreislaufs während eines operativen Eingriffs und dient als schockverhinderndes Mittel bei routinemässigen chirurgischen Massnahmen. Die Verfasser sind in der Lage, durch die Anwendung dieses Plasmastreckers Operationen ohne Gesamtbluttransfusionen auszuführen, die sonst unvermeidlich gewesen wären.

Das Alginat ist bisher meist in der Industrie verwendet worden. Es war die eigene Idee der Verfasser, es als intravenöses Mittel zu benützen. Ihr neues Alginon lässt sich in seiner Wirksamkeit mit dem Dextran und dem Periston vergleichen und ist ausserdem nicht teuer. Die

Verfasser hoffen, dass das Alginon von den Klinikern der ganzen Welt angenommen wird.

RÉSUMÉ

Une étude de 10 ans entreprise en 1944 en vue de créer un nouveau plasma à diffusion à partir de l'alginate de sodium abondant au Japon, a été couronnée de succès en 1955. Il s'agit d'une "nouvelle forme d'alginate à polymérisation plus base," que l'on peut actuellement se procurer sous le nom d' "Alginon." Ce travail est le résultat des recherches des auteurs en vue de déterminer le degré optimum de polymérisation répondant à deux exigences: éviter les effets secondaires (particulièrement l'aparition de pétéchies après une administration massive), et obtenir un effet suffisamment stabilisant sur le système circulatoire.

Ce produit est très différent de la Glycoalgine qui, plusieurs années après la publication des auteurs, a fait l'objet d'un rapport de Takayama après une étude plus poussée de leur alginate à diffusion, et qui est supposé posséder un degré plus élevé de polymérisation. En raison de la polymérisation basse optimum du nouveau produit, les effets secondaires, en particulier les pétéchies, sont supprimés, de même que l'état de choc dû à une hémorragie, à des brûlures ou à d'autres causes, grâce à son action sur la pression sanguine et à l'augmentation du volume de la circulation sanguine qu'il provoque; il accélère de plus l'élimination des toxines après les brûlures. La transfusion de cette préparation a également révélé de nets effets anti-hémodiluants. L'Alginon permet le maintien de la stabilité circulatoire durant une intervention chirurgicale; il prévient le choc dans les cas chirurgicaux de routine. Les auteurs ont pu également, grâce à son utilisation, pratiquer des opérations sans transfusion de sang total dans des cas où celle-ci s'avère habituellement indispensable.

L'alginate a surtout été utilisé dans le domaine industriel. C'est aux auteurs que revient le mérite d'avoir eu, les premiers, l'idée de l'employer en injections intraveineuses. L'efficicacité de l'Alginon est comparable à celle du Dextran et du Periston, mais il a sur ces produits l'avantage de son prix de revient très bas. Les auteurs experiment l'espoir de voir l'Alginon utilisé par les cliniciens et être universellement adopté.

RESUMEN

Estudios a lo largo de diez años para preparar un plasma artificial a base de alginato sódico, abundante en Japón, han tenido como consecuencia la obtención de una nueva sustancia algínica de baja polimerización (en el comerico Alginón) en 1.955. Este trabajo es el resultado del esfuerzo de los autores para determinar el grado óptimo de polimerización que pueda satisfacer dos exigencias: prevención de efectos secundarios (especialmente aparición de petequias consecutivas a la administración masiva) y efecto estabilizante en el sistema circulatorio.

Este preparado difiere fundamentalmente del Glycoalgín, aparecido varios años después de los trabajos del autor, debido a Takayama y que tiene un grado de polimerización mucho major. El preparado Alginón está prácticamente libre de efectos secundarios debido a una baja polimerización. El estado de shock consecutivo a hemorragias, quemaduras o varias otras causas se cura por la acción presora sobre la tensión sanguínea, por el efecto de aumentar el volumen de sangre circulante y por la aceleración de la eliminación de toxinas en los quemodos. La administración de este preparado produce también efecto antihemodiluyente. Aún más, este preparado mantiene la estabilidad circulatoria durante las operaciones y es preventivo del shock. El uso de este plasma ha permitido a los autores llevar a cabo operaciones sin necesidad de trans-

fusión de sangre cuando de otra forma hubiese estado indicada.

El alginato ha sido empleado fundamentalmente en el mundo industrial. Los autores son los que han ideado el uso de esta sustancia por vía intravenosa. El preparado Alginón se ha mostrado tan eficaz como el Dextrán o el eristón y además es barato. Es de esperar que este preparado extienda su uso hasta ser empleado por los clínicos de todo el mundo.

RIASSUNTO

Dopo 10 anni di studi rivolti alla ricerca di un nuovo sostituto del plasma a base di alginato di sodio (sostanza che in Giappone è abbondante), è stata messa a punto la preparazione di "un nuovo alginato a bassa polimerizzazione" messo in commercio sotto il nome di Alginon. Il grado di polimerizzazione è quello ideale, in quanto soddisfa a due importanti requisiti: la prevenzione di effetti collaterali (soprattutto la comparsa di petecchie dopo somministrazione massiva) e il raggiungimento di una efficace stabilizzazione del sistema circolatorio.

Il preparato differisce sostanzialmente dal Glicoalgin che ha un più alto grado di polimerizzazione.

Esso possiede un'azione pressoria molto efficace nella cura dello shock postemorragico o da ustioni o da altre cause; ha un effetto sul sangue circolante, di cui aumenta il volume, e inoltre affretta l'eliminazione delle tossine nelle ustioni. L'introduzione del preparato è seguita da una caratteristica azione antidiluizione, e dimostra la capacità a mantenere una certa stabilità circolatoria durante gli interventi chirurgici.

L'impiego di questo farmaco ha consentito all'autore di compiere interventi in cui sarebbe stata indispensabile la trasfusione di sangue intero.

L'alginato trova soprattutto impieghi industriali; è merito dell'autore quello di averlo usato per via endovenosa e di averne dimonstrato l'efficacia pari a quella del Dextran e del Periston, nei confronti dei quali è molto più economico.

SUMARIO

Um estudo iniciado há dex anos pra encontrar um novo expansor de plasma originado no alginato de sodio acaba de ser bem sucedido na forma de "novo alginato de baixa polimerização" (utilizavel sob o nome de "Alginon"). Este trabalho é o resultado do trabalho dos AA. para determinar o grau otimo de polimerização que satisfizesse doi requisitos: prevenção dos efeitos secundarios (petequias) e obtensão de um efeito estabilizador no sistema circulatorio.

Esta preparação difere, fundamentalmente, do Glycoalgin que foi divulgado por Takayama o qual possuia um grau mais elevado de polimerização. O estados de choque devidos a hemorragias, queimaduras ou de outras causas podem ser curados pela ação pressora sanguinea, aumento do volume circulatorio e excreção de toxinas mais acelerada. A transfusão dessa preparação demonstrou tambem efeitos antihemodiluidores. A sua administração *mantem a estabilidade circulatoria* durante a operação e age como preventivo do choque nos casos de rotina.

Tal preparação possibilitou aos AA. executar operações sem auxilio de hemotransfusões nos casos em que seriam indicadas. A ideia do uso medicinal do alginate é original dos AA. por via venosa. O Alginon mostrou-se comparacvel ao Dextran e ao Periston, com a vantagem de não ser dispendioso. Esperam que o Alginon encontre uma aceitação mundial e divulgação de seu uso entre os clinicos.

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In the joyous days of pagan art, the skeleton was invisible in painting. In the Middle Ages, gentlemen, ladies, bishops, and pages show their flesh in paintings but neither skulls nor bones appear. Aldous Huxley once asked—and found no answer—why the skeleton appeared so late in art. As a matter of fact, the first work representing a spatial scheme of anatomy and the beginning of modern science did not appear until 1543. This was the *Fabrica* of Vesalius, in which the magic of Calcar's illustrations under the supervision of the brilliant Belgian introduced into art the skeleton as the supreme expression of the human form. In the wake of this work, artists began sculpturing recumbent anatomic figures on tombs. In the seventeenth century these statues stood up and opened their eyes. At their feet there were skulls, perhaps in memory of the syphilis pandemics that destroyed the noses of the infected and reminded artists of the existence of the skeleton. As time passed the skeleton grew and sprouted wings on figures decorating mausoleums.

—*Marti-Ibañez*

Genitourinary Surgery

The Manifold Value of Endoscopic Photography in Surgery

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In urologic practice the application of the versatile endoscopic equipment now available is limitless. In the author's opinion, the sharply depicted photographic images will do much to enhance understanding of many intravesical problems by students, both undergraduate and graduate, and by physicians. It is hoped that, in the not too distant future, equipment will be available to the general surgeon for inspection of and accurate photographing of many intraperitoneal lesions.

ENDOSCOPIC examination of the peritoneal cavity and its contents or peritonescopic study has not been universally accepted by general surgeons as have cystoscopic and bronchoscopic study in their respective fields. As a result, the taking of endoscopic photographs of the abdominal cavity has never been seriously considered. It is my opinion that data of inestimable value has been and may be gained by obtaining endoscopic photographs in urologic and bronchoscopic investigation.

It was my privilege in 1940 to proffer to the profession equipment for taking intravesical photographs in black and white, and in 1942 to present an instrument for color photography. The latter equipment, although efficient to a degree, was capable of taking photographs in color only by time exposure. After many years of research by competent lighting engineers, it was found that a small electric light bulb of low wattage, suitable for attachment to the cystoscopic instrument, which would be of sufficient intensity and color temperature to permit the taking of photographs in color, could not be produced.

In 1952 the French investigators Fourestier, Gladu and Vulmiere introduced quartz rod light transmission for endobronchoscopic photography, which technic was applied to intravesical photography by Jaupitrie in 1956. On the basis of the possibilities of quartz rod light transmission, further research was undertaken, with the personal introduction of camera equipment utilizing such principles in March, 1957 (Fig. 1). Endoscopic photographs must, for greatest value, be needle-sharp, because enlargement in some form is required, and this new equipment is capable of obtaining accurate, well-defined photographic images both in black and white and in color.

The eminent uses of such photography are as follows:

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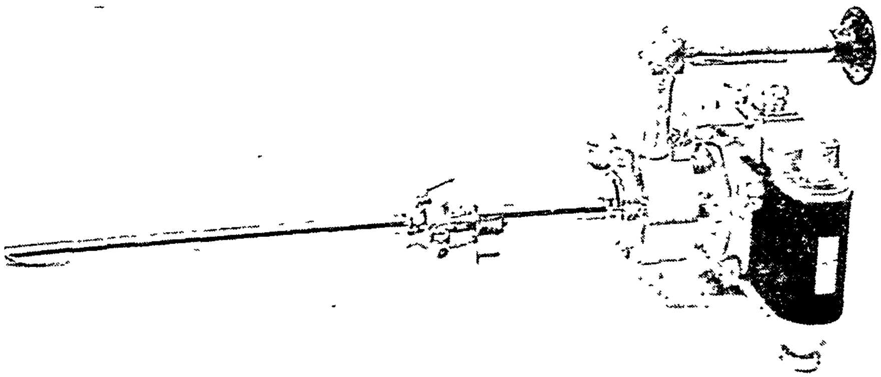

Fig. 1.—The endoscopic camera utilizing quartz rod light transmission.

1. *For the compiling of records.* Endoscopic photographs are of inestimable value as visual records of a pathologic lesion, not only depicting the lesion prior to treatment but showing the appearance or change pursuant to medical or surgical procedures until its ultimate eradication or disappearance.

2. *For enlargement or magnification of a given photographic field.* The enlarged photographic image or its projection on a screen provides the opportunity for a careful appraisal of a lesion. Of necessity, the basic photographic negative or transparency must possess acuity to the most minute detail in order to permit accurate, clean-cut magnification. The proof of exact, authentic and detailed photography is revealed by magnification or enlargement of the original photographic negative or transparency.

3. *For the instruction of students, either graduates or undergraduates.* The visual perception of an intravesical lesion accurately photographed is, beyond question, the most logical and precise manner of creating a more lasting mental impression as to the difference between the normal and the pathologic.

4. *For textbook illustration.* Color endoscopic photographs for textbooks or scientific articles are of paramount importance for complete explanation of the text. The gradations of color of the vesical mucosa, in both normal and diseased states, are of great importance to the cystoscopist as a diagnostic criterion and are readily depicted on color film properly exposed. The gradations of black and white photographs are considered less valuable, but such photographic images readily depict gross lesions (Fig. 2, *A*, *B*, *C* and *D*).

The equipment for intravesical photography is composed of several units, each having an integral part in the function and operation of the camera.

Control Cabinet.—The control cabinet contains a transformer to reduce the line voltage to the filament requirements of the lamp, together with a motor-driven blower of high velocity and the capacity of cooling the lamp. On the front panel of the cabinet are a meter indicating the voltage being applied to the filament, a rheostat to control the filament voltage in gradual steps, a pilot light and a control switch (Fig. 3).

Illumination.—Intravesical illumination is derived from an air-cooled 60-watt, 8 to 10 volt tungsten filament lamp housed within a "luminator," or light-housing, which contains a heat-absorbing glass filter, a pair of aspheric condensing lenses and a spherical concave mirror. The mirror and the lenses concentrate the filament image upon reflecting surfaces of a right-angled prism that bends and projects the beam of light into the polished end of a quartz rod (Fig. 4). This rod is 2.9 mm. in diameter and is mounted and sealed within nickel alloy tubing for its protection. The quartz rods used in cystoscopic work vary in length but generally are 21 cm. long, delivering light of such intensity and color temperature well above 3200 Kelvin, such a range being best suited for color reproduction.

Telescopes.—There are four telescopes available for intravesical photography; a straight forward, a forward oblique, a right-angled and a retrospective. Each lens performs a different function, although each is adapted to the "luminator" and to the camera. Each optical system is color-corrected and adjusted to sharp focus for the distances encountered in cystoscopic procedures (Fig. 5).

Cameras.—Any camera with an f3.5 lens or better may be adapted to the intravesical photographic equipment. The cameras routinely employed are the Robot Royal, with its automatic film-advancing mechanism, and a Camex Reflex for 8 mm. movie serials. The Robot has been modified with a through-the-lens reflex that permits visualization of the photographic field except during the time expo-

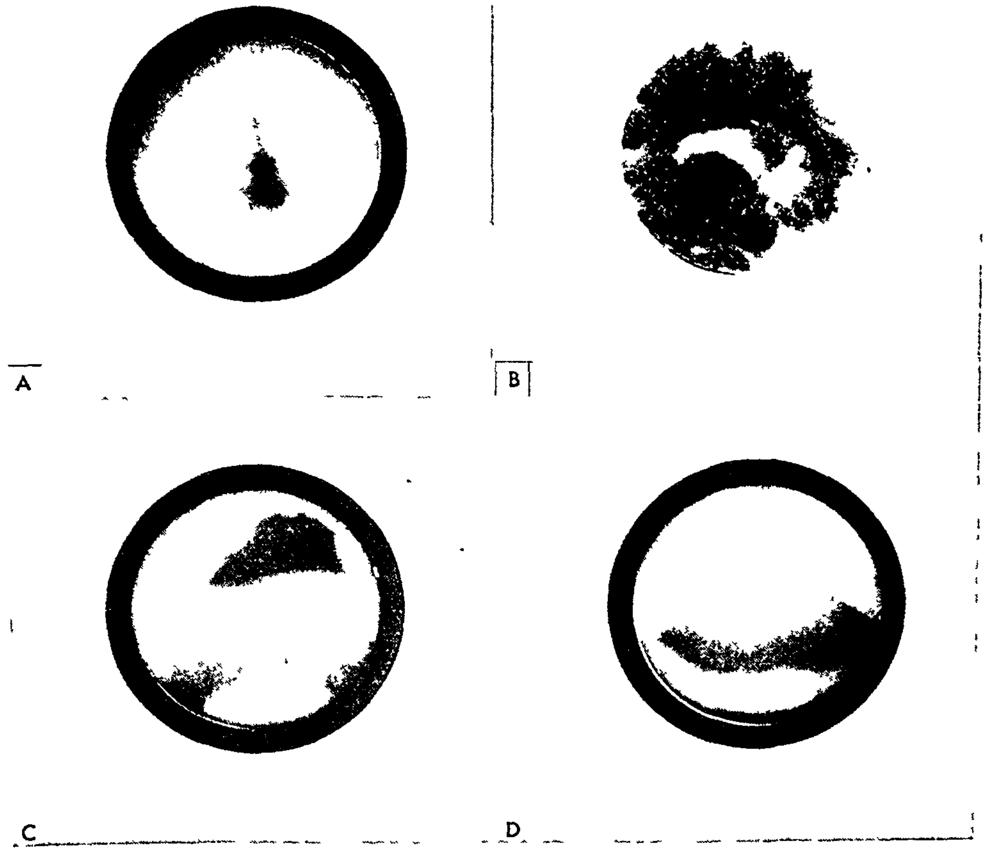

Fig. 2.—*A*, appearance of vesical orifice in presence of trilobar hypertrophy. *B*, unusual configuration of vesical orifice, showing carcinomatous nodule partially obliterating it. *C*, vesical orifice showing encroachment by hypertrophy of median lobe. *D*, orifice of vesical diverticulum.

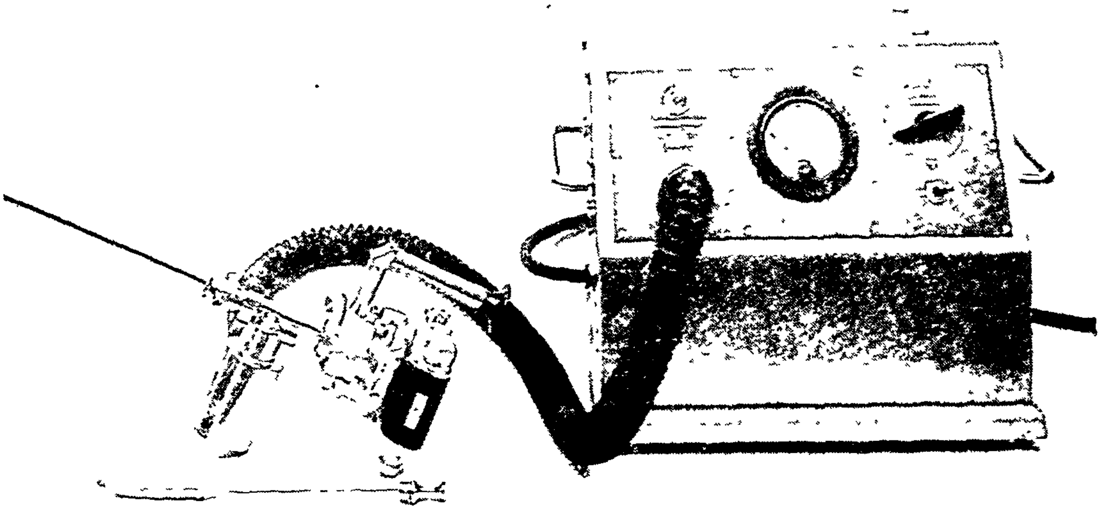

Fig. 3.—Control cabinet and luminator. Cabinet is connected to endoscopic equipment by thin, flexible rubber tubing, through which run wires to luminator.

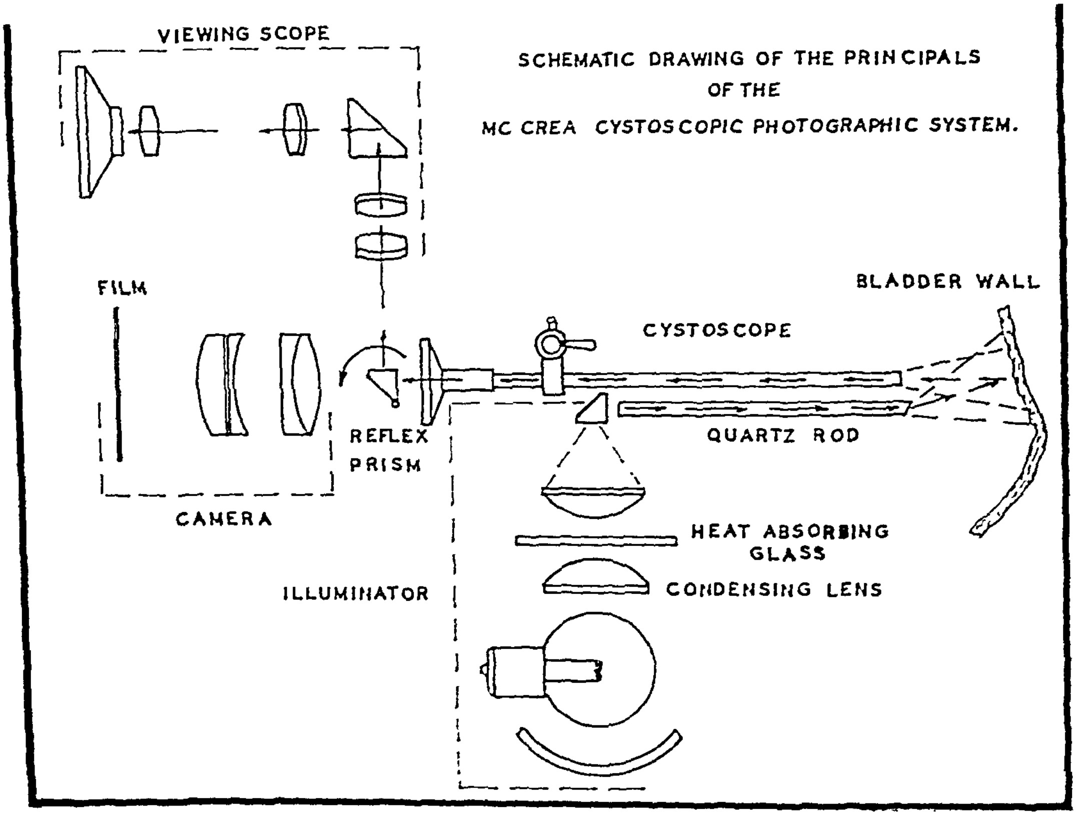

Fig. 4.—Legend included in photograph.

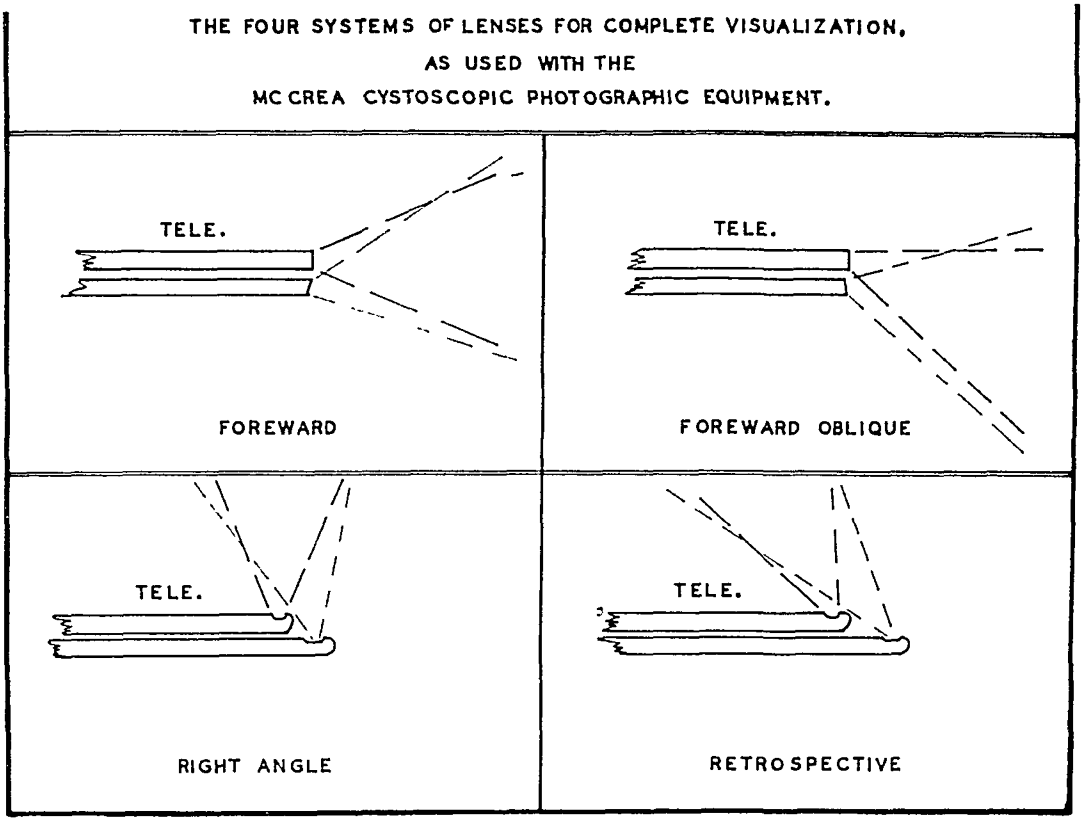
THE FOUR SYSTEMS OF LENSES FOR COMPLETE VISUALIZATION,
AS USED WITH THE
MC CREA CYSTOSCOPIC PHOTOGRAPHIC EQUIPMENT.
TELE.
FOREWARD
TELE.
FOREWARD OBLIQUE
TELE.
RIGHT ANGLE
TELE.
RETROSPECTIVE

Fig. 5.—Legend included in photograph.

sure. The Camex is a through-the-lens reflex which permits visualization of the photographic field constantly during the actual photographic exposures.

Films.—The films employed for intravesical photography have been of several varieties. For color transparencies, 35 mm. Super Anscochrome (135) or Kodachrome Professional film (KA 135) may be employed. Both films function excellently but at different shutter speeds. Satisfactory color photographs may be obtained with Anscochrome film, which has an exposure index of 100 with an exposure of one-fifth to one-tenth second. Exposures with Kodachrome Professional film, which has an exposure index of 12 for tungsten light, however, requires an exposure of one-half second. Although the Anscochrome has a higher exposure speed, it has been demonstrated that enlargements reveal a greater amount of grain than does the Kodachrome film.

For black and white negatives, 35 mm. Ansco Super Hypan, which has a tungsten rating of 400, may be used. This film permits an exposure of one-tenth to one-twenty-fifth second. Panchromatic Triple X (TX 135) 35 mm. film may also be used. This film has a tungsten rating of 160 and requires an exposure of one-fifth second. Either film will produce excellent results.

The motion picture film utilized is Kodachrome, Type A (KA 459) with an emulsion speed of 10. The best results are obtained with the camera operating at 9 frames per second.

Author's Note: This research, together with the final equipment, was supplied by Mr. Henry Pilling of the George P. Pilling Co., Philadelphia.

ZUSAMMENFASSUNG

Die Anwendung der vielseitigen heute erhaeltlichen endoskopischen Apparaturen in der urologischen Praxis ist unbegrenzt. Der Verfasser glaubt, dass scharfe photographische Aufnahmen viel zum Verstaendnis von Zustaenden innerhalb der Harnblase seitens der Studenten und der Aerzte beitragen werden. Er hofft, dass dem Allgemeinchirurgen in nicht zu ferner Zukunft Apparate zur Verfuegung stehen werden, die die direkte Beobachtung und genaue Photographie vieler intraperitonealer Erkrankungen ermoeglichen.

RIASSUNTO

Nella pratica urologica l'impiego di uno strumentario perfetto è di estrema utilità. Secondo l'opinione dell'autore la dimostrazione fotografica dei vari quadri endoscopici è di grande utilità nell'insegnamento agli studenti, agli specializzandi e ai medici generici per quanto si riferisce a molti problemi della patologia vescicale. E' sperabile che in un futuro non lontano tale strumentario possa entrare nell'impiego corrente da parte di qualsiasi chirurgo generale anche per lo studio di lesioni intraperitoneali.

RESUMEN

El empleo del equipo endoscópico versátil moderna no tiene límites en la práctica urológica. De acuerdo con la opinión del autor las precisas imágenes fotográficas han de mejorar considerablemente el entendimiento de los problemas intravesicales a los estudiantes, a los postgraduados y a los médicos. Es de esperar que en un futuro próximo estos dispositivos estén al alcance del cirujano para el estudio y la fotografía de las lesiones intraperitoneales.

SUMARIO

Diz que na pratica urologica a aplicação do equipamento endoscopico é illimitada. Na opinião do autor as imagens fotograficas servem grandemente a compreensão e estudo nem so pelos estudantes como pelos medicos. Espera que, no futuro proximo, equipamentos estarão á disposição dos cirurgiões gerais para exeme e documentação das lesões intra-abdominais.

RÉSUMÉ

En pratique urologique les applications de l'appareillage endoscopique complet dont nous disposons actuellement sont illimitées. L'auteur pense que l'acuité des images photographiques contribuera largement à la compréhension de bien des problèmes intravésicaux, aussi bien par les étudiants que par les médecins. Il exprime l'espoir que le praticien de chirurgie générale pourra bientôt disposer d'un équipement lui permettant l'examen des lésions intrapéritonéales et leur photographie précise.

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> The removal of a chronic appendix can do nothing but good, and the removal of a normal appendix in all honesty can do no harm. On the other hand, there is no operation more disastrous than facile appendicectomy where the disease is in the patient's mind or the surgeon's morals. Here again the choice is philosophic rather than scientific, a decision rather than a diagnosis.
>
> —*Ogilvie*

Obstetric and Gynecologic Surgery

The Skeletal Complications of Pregnancy

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DURING pregnancy certain mechanical and structural changes occur in the pelvis and in the lumbar portion of the spine of the maternal organism, including (1) increased lumbar lordosis; (2) increased pelvic inclination at the lumbosacral joint; (3) relaxation of the sacroiliac and symphysis pubis, and (4) pressure angulation of the lateral femoral cutaneous nerve.

As the abdomen becomes more protuberant with the increasing size and mass of the fetus and uterus, the center of gravity is maintained in the line of balance by increases in lumbar lordosis. This general increase is sometimes painful, owing to the mechanical stress and strain placed upon the ligamentous and discal structures of the lumbar segment of the spine.

Simple measures are helpful in the treatment of the skeletal complications of pregnancy. Very occasionally, acute lumbosacral instability may necessitate bed rest in a semi-Fowler position.

Any severe dorsal or symphysial pain should be treated by support and rest, since otherwise there may be lasting and serious consequences.

Obviously, nothing but conservative treatment should be undertaken before the spontaneous termination of pregnancy.

It is best treated by a maternity garment in which two Hoke steels have been incorporated. The Hoke steels give more support to the back than does a flexible stayed garment. Hoke steels have the advantage over a Goldthwaite iron, with its two crossbars, in that the crossbars of the Goldthwaite iron cause discomfort by pressure on the spinous processes (Fig. 1). The long Hoke steels supply two points of the three-point mechanism best suited to the anterior support of the protruding abdomen and to the support of the lordosis (Fig. 2).

Increased pelvic inclination is treated in the same manner as above, since it is caused by the mechanism aforedescribed. Occasionally, permanent damage to a lumbosacral disc occurs, with permanent lumbosacral pain and instability. This is related, in our opinion, to degeneration of the disc at the lumbosacral level, due to the ligamentous relaxation of pregnancy and the abnormal stress thrown upon this structure. Lumbosacral fusion is occasionally required as definitive treatment, to be done, of course, at a time when the patient is not pregnant. When the lumbar portion of the spine and/or the lumbosacral articulation becomes painful, bed boards (in

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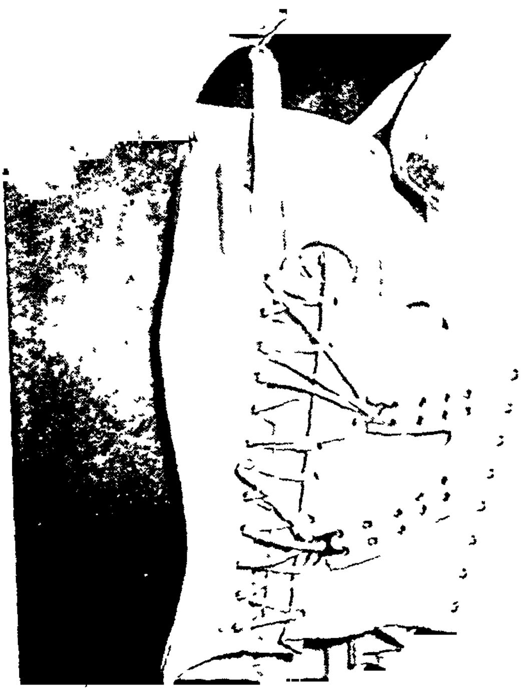

Fig. 1.—Maternity garment with two Hoke steels.

addition to the lumbosacral maternity garment) should be used beneath the mattress. Grade 3 or Grade 4 pine or fir boards 1 by 6 inches and 6 feet 4 inches long are most suitable. Plywood is poorly adapted to this use, since it must be at least ½ inch thick; this, together with the necessity of cutting a 6-foot 4-inch length from a standard 8-foot length makes the use of such a board cumbersome, heavy and expensive.

One of us directs each of his obstetric patients to employ a firm mattress with bed boards, starting in the third month of pregnancy, even before being fitted with a maternity garment. A maternity support is applied at the time fetal movements are first noticed.

Very occasionally, acute lumbosacral instability may require bed rest in a semi-Fowler position. This position alone is more desirable than pelvic traction or Buck's extension in pregnancy.

Radicular pain, radiating from the back into the abdomen and the upper part of the thigh, is not infrequently encountered. This type of radiating pain occasionally gives rise to an unnecessary abdominal operation. About 1 patient out of 10 has some degree of radiculation, or at least a sclerotogenous type of pain radiation. The use of bed boards and an adequate lumbar support controls these difficulties.

The increased body weight and ligamentous relaxation associated with pregnancy frequently result in pronation of the feet, increased or *de novo*.

Longitudinal arch supports placed in a shoe of appropriate design are helpful. The shoe should be of the British walker or Selby No. 5 type, i. e., a Cuban type heel in a front-lace oxford with a stiff shank. The front-lace oxford provides satisfactory retention of the foot, together with the support inside the shoe, whereas other types of shoes do so less perfectly. One of the authors has difficulty in persuading his patients to wear unfashionable shoes. It is not possible, he states, "to get the present-day young matron to be too dreamy about front-lace oxfords." The young matron of today is frequently depressed and forlorn at what is happening to her figure during pregnancy. A compromise with regard to the type of footwear to be worn is advisable.

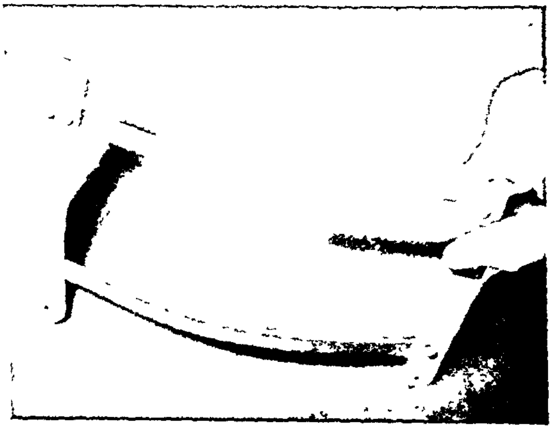

Fig. 2.—Goldthwaite steel with two cross bars.

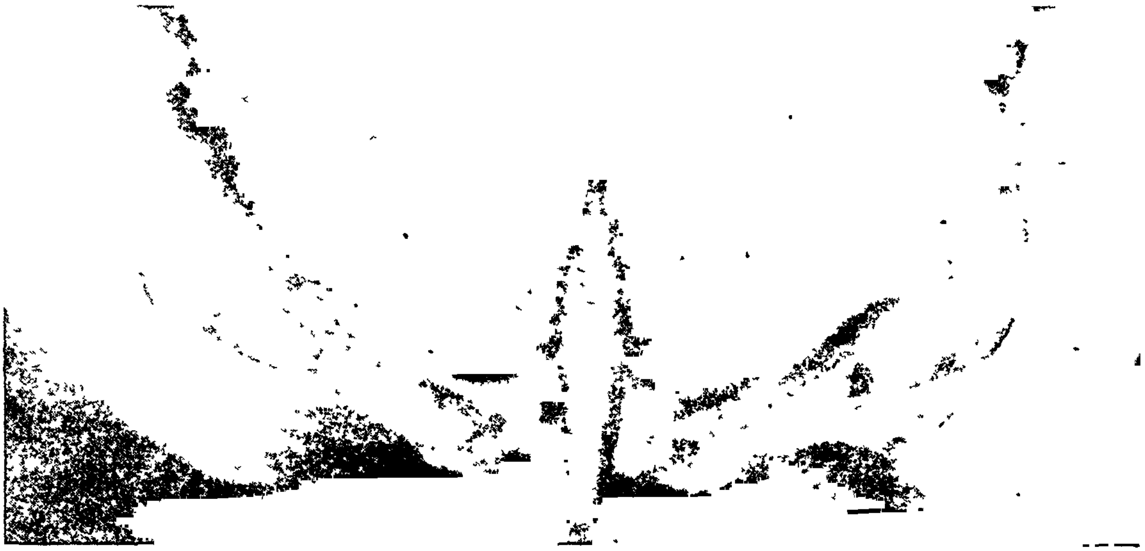

Fig. 3.—Persistent diastasis of symphysis.

Sacroiliac relaxation and relaxation of the symphysis pubis are well-known results of the hormonal changes that occur during pregnancy. In some cases, toward the end of pregnancy, the patient is conscious of motion in the symphysis pubis joint in walking. There may be pain referred to the sacroiliac joints as well. Occasionally, marked diastasis of the symphysis pubis may remain and constitute the anatomic basis for pain in the symphysis, persisting after pregnancy has terminated. Gross instability of the symphysis with uncomfortable motion on walking, a palpable gap at the symphysis, and tenderness over the area on sexual intercourse are complaints at times mentioned by the patient.

Fusion of the symphysis pubis, with or without sacroiliac fusion, is indicated in cases of persistent pain related to this mechanism. Figure 3 represents an instance of persistent diastasis of the symphysis, which diastasis occurred during pregnancy. Fusion with Wingate bolt is shown in Figure 4. The case of the patient whose roentgenograms are included in this article is here reported.

REPORT OF CASE

D. G., a white woman aged 34, complained chiefly of (1) pain in the symphysis on walking; (2), abnormal motion in the symphysis on walking; (3) pain in the symphysis on intercourse, and (4) pain low in the back on walking.

After the last pregnancy, about two years prior to our first seeing this patient, the symphysis failed to stabilize itself. A gap in the symphysis was palpable to the patient. Sexual intercourse was painful. Motion in the symphysis was noticed by the patient on walking. Bilateral sacroiliac pain was persistent. Bilateral sacroiliac fusion and fusion of the

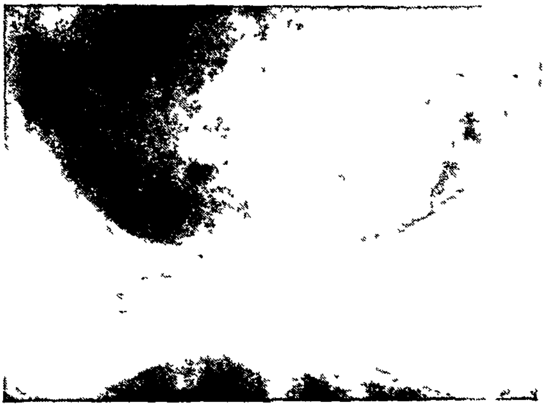

Fig. 4.—Fusion with Wingate bolt.

symphysis pubis were done, and the symptoms desisted.

At times the pregnant patient complains of a burning pain in the anterolateral aspect of the thigh, with paresthesia and/or hyperesthesia in the lateral femoral cutaneous distribution. This is due to meralgia paresthetica of the lateral femoral cutaneous nerve, caused by the protuberant abdomen and by pressure at the inguinal region on that nerve. The maternity garment is helpful. Since the pain usually disappears with the termination of pregnancy, measures sometimes employed with nonpregnant women are not indicated during pregnancy.

SUMMARY

Simple means of treatment are helpful in the treatment of skeletal complications of pregnancy. Very occasionally, acute lumbosacral instability may require bed rest in a semi-Fowler position. The Gatch "up" position is better applicable to pregnant patients than is pelvic traction or Buck's traction.

Because of the serious nature of the difficulty that occasionally persists, the author is convinced that any severe lumbar or symphysial pain should be treated by support and rest.

Obviously, nothing but conservative treatment should be undertaken before the spontaneous termination of the pregnancy.

One author instructs his obstetric patients to use their supports for approximately six weeks postpartum and their bed boards for six to twelve weeks, in addition to the usual post partum exercise program.

ZUSAMMENFASSUNG

Es gibt einfache Behandlungsmethoden, die bei Schwangerschaftskomplikation seitens des Skelettsystems von Nutzen sind. Ganz gelegentlich kann eine akute Unstabilitaet der Lumbosakralgegend Bettruhe in halber Fowlerscher Sitzstellung erfordern. Die Hochlagerung des Beckens eignet sich fuer Schwangere besser als Zugbehandlung des Beckens oder Behandlung mit dem Buckschen Zugapparat.

Der Verfasser ist ueberzeugt, dass angesichts der manchmal schweren und dauerhaften Beschwerden jeder heftige Schmerz im Ruecken oder in der Schambeingegend durch Stuetzung und Ruhe behandelt werden soll. Offensichtlich sollten vor der spontanen Beendigung der Schwangerschaft ausschliesslich konservative Behandlungsmassnahmen angewandt werden. Der Verfasser weist seine Woechnerinnen an, ihre Stuetzapparate noch etwa sechs Wochen nach der Entbindung und die Bretter unter den Matratzen noch sechs bis zwoelf Wochen zu benuetzen und im uebrigen die ueblichen Uebungen auszufuehren.

RÉSUMÉ

Les méthodes de traitement les plus simples sont souvent utiles dans la thérapeutique des complications osseuses de la grossesse. Un état lombosacré nécessite rarement le repros complet en semi-position de Fowler. La position verticale de Gatched est plus facilement appliquable aux femmes enceintes que la traction pelvienne ou la traction de Buck.

Etant donné la nature grave de certains états, occasionnellement persistants, l'auteur est convaincu que toute douleur dorsale ou symphyséale violente devrait être traitée par des supports et par le repos.

Il est évident que seul un traitement conservateur est indiqué jusqu'à la délivrance spontanée.

Un auteur ordonne à ses patientes un pelvi-support durant environ six semaines et l'utilisation d'une planche de lit durant six à douze semaines, cela en plus du programme d'exercices usuel.

RIASSUNTO

Nella cura delle complicazioni scheletriche durante la gravidanza possono gio-

vare metodi di cura molto semplici. Raramente un'instabilità acuta lombo-sacrale può richiedere il riposo a letto nella posizione di semi-Fowler; la posizione di Gatched è più adatta alle donne gravide che non la trazione pelvica o trazione di Buck.

L'autore è persuaso che ogni dolore dorsale o della sinfisi debba essere trattato col sostegno e il riposo. Ovviamente non si deve tantare niente altro che la cura conservativa prima del termine spontaneo della gravidanza.

RESUMEN

Algunos métodos terapéuticos simples coadyuvan, según el autor, al tratamiento de la complicaciones esqueléticas en el embarazo. En algunas ocasiones la inestabilidad lumbosacra aguda puede requerir reposo en cama en semiposición de Fowler. En las embarazadas es más aplicable la posición erecta de Gatched que la tracción pélvica o la tracción de Buck.

El autor está convencido de que, debido a la naturaleza seria de la dificultad que a veces persiste, todo dolor dorsal o sinfixal importante debe ser tratado con contención y reposo.

Naturalmente que antes del término espontáneo del embarazo no deben utilizarse más que tratamientos conservadores.

El autor indica a sus pacientes obstétricas el uso de medios de contención durante seis semanas pasado el parto, y dormir sobre cama dura de seis a doce semanas además del programa habitual de ejercicios.

SUMARIO

Métodos simples são uteis no tratamento de complicações esqueléticas na gravidez. Muito ocasionalmente, instabilidade lombo-sacra pode exigir repouso no leito na posição de semi-Fowler. A posição de Gatched é mais aplicavel a pacientes gravidas do que a tração pélvica ou tração de Buck.

Devido a séria naturesa das dificuldades que ocasionalmente persistem, o A. está convencido que qualquer dôr forte dorsal ou sinfiseal deva ser tratada com imobiisação e reposso.

Obviamente, sómente o tratamento conservador deve ser instituido até o término expontâneo da gestação.

Um A. instrue suas pacientes a usar seus apoios em aproximadamente seis semanas post-partum e o leito durante seis a doze semanas alem do programa usual de exercicios.

◆

The doctors were unquestionably sincere in their beliefs and carried out bloodletting in deadly earnest, not only upon their patients, but upon themselves. A celebrated physician of the sixteenth century, Guy Patin, Dean of the Paris Medical Faculty, bled his wife twelve times for a chest trouble, his son twenty times for a fever, himself seven times for a cold in the head, and two of his friends thirty-six and sixty-four times respectively.

—*Major*

Simplified Hysterectomy

G. M. MES, F.R.C.S. (Eng.)

KRUGERSDORP, TRANSVAAL, SOUTH AFRICA

A method of hysterectomy is presented, which offers the following advantages:

1. *It is technically easy.*
2. *It does not interfere with the pelvic floor.*
3. *It prevents contamination of the peritoneum by vaginal contents.*
4. *It completely safeguards the ureters.*
5. *It makes difficulties with the uterine arteries nearly impossible.*
6. *It fully removes the areas where malignant change may occur.*
7. *The possibility that a slowly developing hematoma of the broad ligament will occur is practically eliminated.*
8. *Early ambulation can be instituted without a qualm.*

THE choice of technic in hysterectomy is still generally between the "supravaginal" and the "total" methods. Both have their advantages and their disadvantages.

The supravaginal method is usually technically simple; it has fewer complications and fewer danger points. The pelvic floor is not disturbed, and there are therefore no special contraindications to early ambulation. It has, however, the disadvantage that it leaves the cervix a potential site of "erosions" and a nidus for possible future malignant change.

Total hysterectomy has the advantage that these dangerous factors are eliminated, but it is often far from easy if the uterus is fixed low in the pelvis of an obese patient. There is the ever-present danger that a uterine artery may slip out of its ligature, and the resultant acute hematoma may make control of the situation precarious by distorting the visible anatomic picture. There are also the ureters, which, according to some statistics, are clamped more often than one likes to believe. Furthermore, the tendency to late hematomas of the ligamentum latum may prolong the convalescent period beyond a reasonable limit.

With antibiotics available, infections have become fairly rare, but a prolonged healing time for the vault of the vagina, with continued discharges, is not unusual. Finally, there is the fact that, in many cases, it proves impossible to repair the continuity of the pelvic floor, or to be sure that such a repair will hold under the strain of coughing, etc. Early ambulation is therefore not without its dangers; hence it is less regularly permitted.

From the patient's point of view the supravaginal method gives a much better result, which is then credited to the superior skill of the gynecologist, so that the temptation is great to use it even when the cervix is not above reproach.

For the past twelve years I have used a method which, to me, seems to have all the advantages of the two aforementioned and none of their disadvantages.

It is technically simple and, even in complicated cases, enables one to avoid all possibility of trouble with the ureters and the uterine arteries. It leaves the pelvic

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vare metodi di cura molto semplici. Raramente un'instabilità acuta lombo-sacrale può richiedere il riposo a letto nella posizione di semi-Fowler; la posizione di Gatched è più adatta alle donne gravide che non la trazione pelvica o trazione di Buck.

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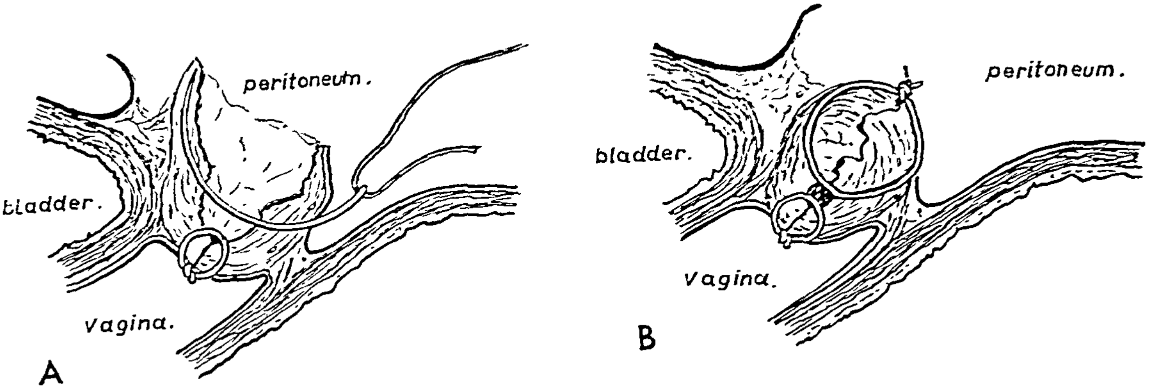

Fig. 2.—*A*, occlusion of stump. Note method of inserting needle. *B*, final condition of stump. Peritonization follows.

The operation, in the beginning, follows the normal technic for supravaginal hysterectomy. The point of insertion of the round ligaments, the tubes and the ligamenta propria of the ovaries are clamped in one sheaf with two large, strong Kocher clamps, a full bite being taken so that the beak of the outer clamp nips the uterus at a low point—if possible, at the level where the peritoneum already lies free on the anterior surface of the uterus. The tissue between the clamps is severed with the knife, and the peritoneum between the tips of the two outer clamps is divided transversely with scissors. (Sometimes a second pair of clamps is needed to come down low enough for this.)

With a swab, sometimes helped by a few snips of the scissors, the peritoneum is now rubbed free from the anterior surface of the uterus and slightly into the base of both ligamenta lata.

Two Kocher clamps are now placed, one on each side and parallel to the uterus, so that they practically touch it, or even nip its lateral border.

There is no need for second clamps on the uterine side, as there is little hemorrhage from an "open" cut. The vertical arterial anastomosis in the uterus seems to be minimal.

With the knife, the last two clamps are now cut free from the sides of the uterus, a small ridge of muscular tissue being left on the clamps, which will prevent any possibility of a major blood vessel's escaping its ligature later.

One is, by now, at the supravaginal part of the cervix, and a circular incision is made all round it at the level of the tips of the last pair of clamps. With a steady pull, the knife cutting inward in short strokes, a "coning" downward is performed. Here again the outer part of the uterus folds back on itself, permitting the coned-out part to emerge from its center. Here also the hemorrhage (with the tension on the remaining parts and the nearly immediate splitting up of the arteries into small branches as they enter the substance of the uterus) is relatively sparse. Usually only two small arteries, between the peritoneum and the uterus, just behind the point of attachment of the ligamenta lata, need to be caught separately.

Surprisingly soon, the popping forth of a small, dark blood clot shows that the upper end of the "cervical cone" has been reached, and with a few strokes of the knife the uterus is freed and removed.

With release of the tension in the uterine rest there may now be some hemorrhage, but this is never disturbing, as it comes, at the worst, from end arteries.

A fairly large, half-round, round-bodied needle, threaded with thick chromic cat-floor intact and, in general, has proved to have a negligible morbidity rate.

In looking up the literature I find that Richardson and Waters have already devised similar procedures, but, as the method I use seems to be more simple and logical and has several other advantages, to be considered later, I consider it worthy of a trial by others.

It is done in two stages at one sitting. The vaginal part is done first.

With the patient in the lithotomy position, the cervix is firmly grasped with two uterine tenaculum forceps, near the os, and pulled down. Around them and the os a circular incision is started, well clear of the columnar epithelium, and then deepened upward and inward by short strokes of the knife, thus "coning" out the cervical canal. In practice it will be noted that the outer part folds back on itself like an inverted sleeve, so that one has the impression that it might even be technically possible to excise the whole lining of the uterus via the vagina.

This extreme, however, is not aimed at, and, as the dissection proceeds, the circle of the cut is narrowed till a cone measuring 1½ to 2 inches (3.7 to 5 cm.) projects from the wound. The free edge of the vaginal mucosa is grasped, left and right, in a Kocher clamp and the excised cone finally cut free.

The womb retracts upward, and, if care has been taken not to remain too superficial with the dissection but to work inward toward the cervical canal, there is relatively little hemorrhage.

The wound in the cervix is now closed transversely, with closely placed stitches of fairly thick chromic catgut, from left to right, deep bites being taken and continuous blanket stitch employed. The aim of this suture is twofold. It eliminates any further contamination by vaginal contents of the rest of the operative field, and an effective "watertight" closure will stop hemorrhage into the now closed space in the lower end of the uterus.

The abdominal part of the operation follows. While the surgeon changes gown and gloves, the patient is placed as for a routine abdominal hysterectomy, draped, etc.

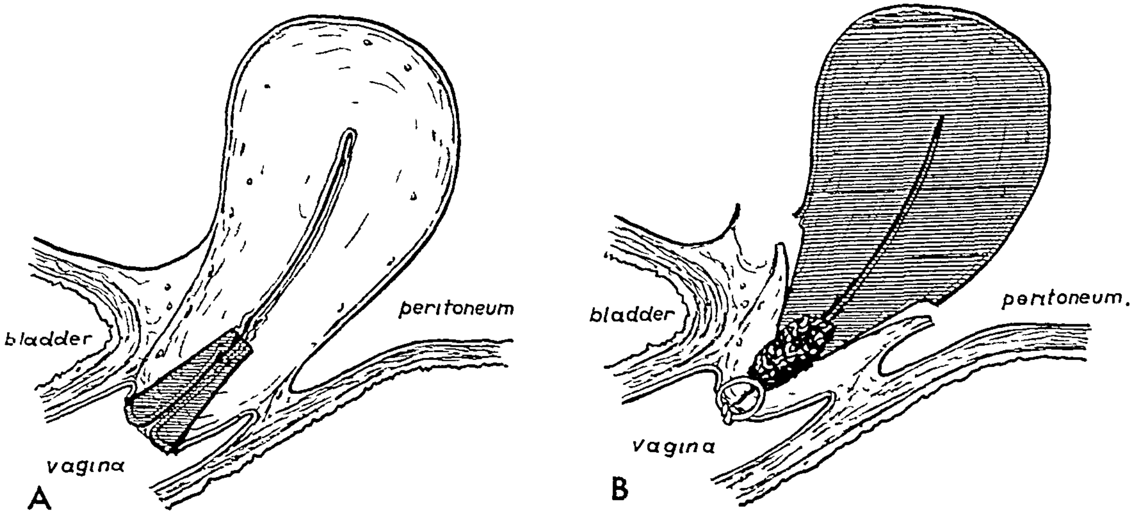

Fig. 1.—*A*, "coning out" cervix. Coning reaches well up into "supravaginal" portion of cervix. *B*, coning out corpus uteri. Cervix has been hermetically closed. During changeover, all hemorrhage into stump has been stopped.

toneo da parte del contenuto vaginale.

4. Protegge assolutamente gli ureteri.

5. Rende praticamente inesistenti le difficoltà di legatura dell'arteria uterina.

6. Consente di asportare completamente le zone invase dal tumore.

7. Elimina l'eventualità della formazione di ematoma nel legamento largo.

8. Consente di alzare precocemente le malate senza malessere.

SUMARIO

Apresenta um método de histerectomia que tem as seguintes vantagens:

1. Tecnicamente fácil; 2. não interfere com a soalho pelvico; 3. evita a contaminação do peritoneo por conteudo vaginal; 4. resguarda completamente os ureteres; 5. torna quasi impossivel dificuldade em relação ás arterias uterinas; 6. remove totalmente as areas onde pode haver malignidade; 7. elimina praticamente a possibilidade de hematoma no ligamento largo; 8. deambulação precoce sem incidentes.

RÉSUMÉ

Description d'une méthode d'hystérectomie présentant les avantages suivants:

1. La technique est simple.

2. Elle ne touche pas au plancher pelvien.

3. Elle évite l'infection du péritoine par le contenu vaginal.

4. Elle sauvegarde entièrement les uretères.

5. Elle rend pratiquement impossibles les complications dues aux artères utérines.

6. Elle permet d'exciser dans leur totalité les zones où pourraient se manifester des modifications malignes.

7. Elle élimine pratiquement la possibilité de la formation lente d'un hématome du ligament large de l'utérus.

8. L'ambulation précoce peut être instituée sans craintes.

RESUMEN

Se trata de un nuevo método de histerectomía que ofrece las siguientes ventajas:

1. Es técnica fácil.

2. No interciere con el suelo de la pelvis.

3. Previene la contaminación del peritoneo por el contenido vaginal.

4. Preserva plenamente los uréteres.

5. Hace prácticamente imposible cualquier dificultad con las arterias uterinas.

6. Extirpa completamente todo el área en que pueda producirse transformación maligna.

7. Prácticamente elimina la posibilidad del hematoma secundario del ligamento ancho.

8. Se puede instituir la deambulación precoz sin ningún inconveniente.

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gut, is now inserted into the posterior surface of the uterus, about ¾ inch (1.9 cm.) down from the open end, and is pushed through the cavity and into the anterior part. From here it is directed upward in the substance of the uterine rest, to emerge at its upper edge.

Three such sutures have, in all cases, sufficed to close the dead space and to control any vestigial hemorrhage that might occur.

The stumps of the ligamenta lata are now ligated with figure-of-eight sutures; next, the stumps, *distal* to the ligatures, are threaded on one long suture, which includes a generous bite into the upper surface of the uterine stump. When this has been tied, the suspensory action of the round ligaments has been transferred to the remains of the uterus and, at the same time, all possibility of the ligatures' slipping off the stumps is obviated, as they are now "locked in."

Meticulous peritonization of the raw areas, with fine catgut in an atraumatic needle, ends the intra-abdominal part of the operation.

There are only two contraindications to keep in mind:

(1) Any suspicion of malignant change, which in itself demands a wide excision into healthy tissue, and (2) a doubtful diagnosis, for, once the cervix has been so deeply coned out, the door is closed to lesser procedures. It is impossible to reestablish the continuity of the cavum uteri with the outside.

COMMENT

The difference between this method and the variations of the "composite method" of Richardson, Waters and others is, essentially, that the cervix is coned out *first.*

This has the advantage of eliminating two dangers present in the aforementioned procedure:

1. It eliminates the possibility that, when the cervical stump is cleared of mucosa by the knife or the thermocautery, the sutures at its upper and internal end may be severed or weakened. This is a distinct danger when one is working more or less blindly in the depths of a narrow cone. Once the cut has been made, there is no chance of being sure what will happen inside.
2. It makes the leaving behind of a piece of mucosa, deep in the interior of the stump, a practical impossibility which, in trying to avoid the first-mentioned danger, is sure to happen sooner or later. The surgeon is therefore sailing between Scylla and Charybdis.

This difficulty is eliminated in the method advised in this article.

ZUSAMMENFASSUNG

Es wird ein Verfahren der Gebärmutterresektion vorgestellt, das die folgenden Vorteile bietet:

1. Es ist technisch leicht durchführbar.
2. Es beeinträchtigt nicht den Beckenboden.
3. Es beugt einer Verunreinigung des Bauchfells durch Scheideninhalt vor.
4. Es schützt völlig die Harnleiter.
5. Es macht Schwierigkeiten mit den Gebärmutterarterien fast unmöglich.
6. Es beseitigt völlig die Gebiete, wo bösartige Veränderungen auftreten können.
7. Die Möglichkeit eines sich langsam entwickelnden Hämatoms des Lig.latum wird praktisch ausgeschaltet.
8. Frühzeitiges Aufgeben der Bettruhe kann ohne Schwächeanfälle erfolgen.

RIASSUNTO

Viene presentato un metodo di isterectomia che presenta i seguenti vantaggi:

1. E' facile tecnicamente.
2. Non modifica il pavimento pelvico.
3. Impedisce la contaminazione del peri-

TABLE 1.—*Physiologic Data*

Action on Epithelial Structures	+	—
Milk Ducts	Folliculin	—
Acini	Progesterone	Folliculin
Action on Fibrous Structures	Folliculin	Progesterone

3. Connective tissue, pathologically important.

There are also three possible topographic structures:

1. Perialveolar and pericanalicular connective tissue.
2. Intralobar connective tissue.
3. Perilobar connective tissue.

These connective elements command the vessels and the nerves.

Different Phases in the Development of the Mammary Gland: During its life, this gland undergoes some morphologic changes, related to (a) the different stages of genital life (puberty, pregnancy, menopause); (b) the different stages of the catamenial cycle; (c) the precatamenial phase (budding and proliferation of the acini); (d) the catamenial phase (disappearance of the acini), and (e) the postcatamenial phase (involution of the acini and formation of dense connective tissue).

Summary of Physiologic Facts (Morphogenetic Data on the Mammary Parenchyma).—During the woman's entire life and adapting to its different physiologic moments, a balance occurs between the two tissues: epithelial (ducts and alveolae) and connective and fatty (supporting tissue).

This balance is dependent on the sex hormones, which are themselves dependent on the pituitary gland.

Anatomic Clinical Changes: An imbalance of endocrine stimulation leads to pathologic changes in the tissues and in the clinical aspects characteristic of mastosis.

Tissue Changes: Connective tissue changes consist of intense connective proliferation on the intercellular substance, with lymphatic cellular infiltration.

Epithelial tissue changes are characterized by two phenomena: (a) intense tubular alveolar proliferation, with increase of the tree's milk branches, and (b) tubular cystic proliferation, with increase of the walls of the milk tree; there is a formation of expansion of the small

TABLE 2.—*Types of Tissue Change*

Functional Symptoms		*Hormonal State*		*Sterility*
Pain	*Physical Symptoms*	*Oestrogeny*	*Cycle*	*Frequency*
+++	Elastic and granular densification of the parenchyma, localized or generalized	Moderate during a short period	Shortened	++
++	Compact and granular densification of the parenchyma, localized or generalized	Moderate during a prolonged period	Irregular	+++
+	Unenclosed or free microcysts	Moderate during the genital life entire	Irregular	+
−	Single or multiple macrocysts	Strong	Irregular or absent	−

Roentgen Study of Mastosis

A. P. LA CHAPELE, M.D., F.I.C.S., AND J. CARTRON, M.D.

BORDEAUX, FRANCE

The roentgen study of mastosis, associated with its pathologic aspects (not here presented) shows the unity of the disease, which is characterized by a varied mixture of epithelial and stromal hyperplasia with fibrosis. It is an organic answer to a deviate endocrine stimulus.

A priori, a trial of medical treatment must precede surgical intervention, which is indicated at the slightest suspicion of malignant change.

Practically speaking, it would be wise for every woman who has functional and organic symptoms of mastosis to undergo periodic roentgen examinations, the results of which can aid the surgeon in his decision.

WE should like to present the results of a systematic roentgen study of 302 female breasts affected by mastosis.

Before proceeding further, however, it is necessary to specify what we mean by mastosis, a word signifying to us a chronic degenerative process of the breast.

Among 60 terms may be retained also those of Konjetzny (mastopathie) and Geschickter (mammary dysplasia).

Summary of a Few Normal and Pathologic Facts of Anatomy and Physiology, Necessary to the Interpretation of the Radiologic Picture.—Anatomic Facts: The breast is a complex organ (Fig. 1*A*), composed of (a) a gland, with a specific purpose, the secretion of milk, and (b) a supporting tissue with two purposes: first, to provide for the functional needs of the gland, to which it supplies vascularization and innervation, and second, to order its morphologic character.

The supporting tissue consists of (a) a cutaneous covering (skin, areola and nipple); (b) a fatty covering (premammary and postmammary layers), and (c) Cooper's suspensory ligament, forming fibrous bridges between the derma and the gland, into which they penetrate deeply (Fig. 1*B*).

The breast is *within* the skin, not *under* the skin.

Mammary Gland: This gland consists of a group of 15 to 20 lobes, unenclosed and each independent of the others. The lobe is a distinct functional unit, composed of 2 elements: (a) a mammary duct, and (b) a lobular alveolar system. These combine to constitute the mammary tree.

Anatomic Aspects of the Mammary Duct: This is shaped by (1) a main duct, (2) secondary ducts (Fig. 1*C*), and (3) ampullae expanded into the main and secondary ducts (Schollhammer).

These expansions are the point of departure of the cysts.

Anatomic Aspects of the Mammary Lobe: The lobe is a kind of bag, designed to shield the last branches of the mammary duct, from whose ends spread the secretory alveolae.

Three anatomic formations are possible:

1. Small canals, with walls shaped of two layers of absorbent cylindric cells.
2. Alveolae, with two layers of secretory cubic cells.

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areas appear, their contours being indistinct and multishaped. They vary in diameter from 0.5 to 1 cm. Their distribution shows a spread within the limits of the mammary area, and a tendency to group together and to take on a cloudlike appearance.

Interpretation: Clusters of hyperplastic lobules surrounded by lymphatic reaction.

Micronodular Opacities (Fig. 2*B*) : The contours of these opaque areas are more or less diffuse. The opacities range in diameter from 2 to 6 cm. They are distributed in a spreading manner within the limits of the mammary area, sometimes appearing oriented toward the nipple, like beads in a rosary. They undergo no evolution after the menopause.

Interpretation: Microcysts and enlargement of the milk ducts, surrounded by stromal reaction.

Macronodular Opacities (Fig. 2*C*) : In general, these represent macrocysts developed in the sinuses of the milk ducts. They are of two types: (a) spindle-shaped and (b) approaching the round. The spindle-shaped type has contours either precise or irregular (Pericystic fibrous reaction). The cysts range from 1 to 7 or 8 cm. in diameter. They have three notable characteristics:

1. Convergence of the axis toward the nipple.

Interpretation: Expansion is located at the level of the milk duct.

2. Clear borderline space (Gros).

Interpretation: Rapid pushing back of the neighboring tissues.

3. Monopolar or bipolar tails (flagellae).

Interpretation: Visualization of the expanded milk duct above and under the cyst.

The macrocysts that approach roundness have a rumpled appearance (Fig.

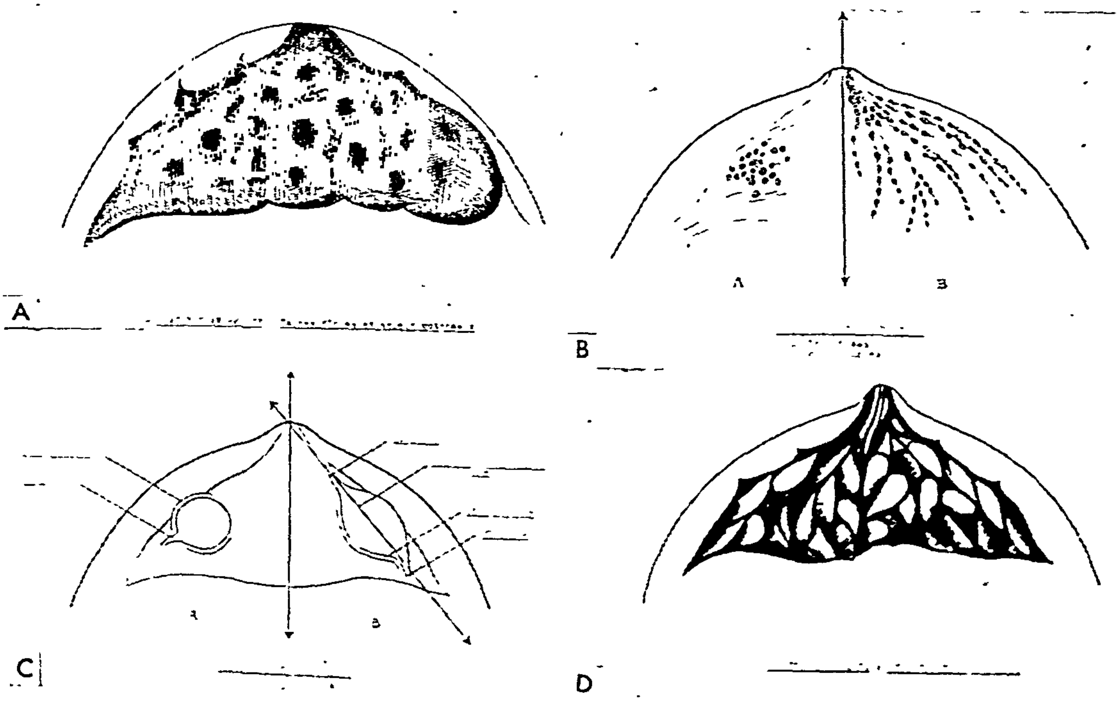

Fig. 2.—*A*, diagram of unlimited spots and cloud formations. *B*, diagram of micronodular opaque areas. *Left*, spread; *right*, orientation toward nipple. *C*, diagram of macronodular opaque areas. *Left*, approaching round; *right*, spindle-like. *D*, diagram of oval areas of translucence.

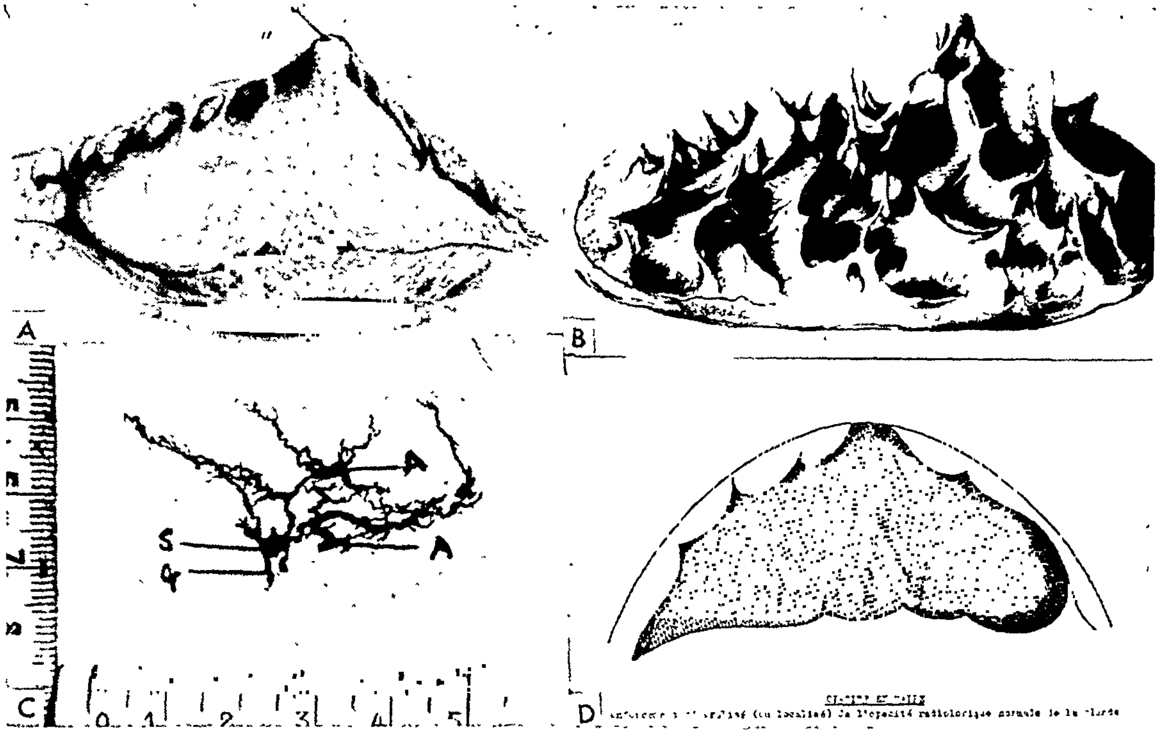

Fig. 1.—*A*, section of breast (after A. Cooper), showing skin, premammary layer, gland and postmammary layer. *B*, Cooper's suspensory ligament and its walls (after A. Cooper). *C*, isolated mammary duct, showing many ampullae extending into the main and secondary duct. *D*, diagram of plate-shaped area of opacity.

canals by multiplication of the wall cells. This has a cystic appearance; in reality, these are pseudocysts.

Clinical Features: The most frequent types are here tabulated (Table 2).

Without considering the possibilities as to transformation of mammary dysplasia (or mastosis) into carcinoma, all authors concur as to the difficulty of the differential diagnosis between mastosis and mammary carcinoma.

Are the roentgen rays able to resolve this problem? It is this question that we are about to consider.

Roentgen Study of Mastosis.—This study will be separated into two parts: (1) an analytic study of the elementary images shown in diagrams, and (2) a synthetic study of the grouped images shown in roentgenograms and their diagrams.

Interpretation of the roentgenographic images will be given in correlation with their description.

Analytic Study of the Elementary Images: We shall study successively (a) abnormal opacities; (b) abnormal translucent areas, and (c) associated signs.

Abnormal Opacities: "Plate-shaped" Opacities (Fig. 1*D*) may be

1. Localized, with increase of the normal radiologic opacity of the gland, lying on the outer upper area, or
2. Generalized, showing dense and homogeneous opacity, matching the triangular gland's shape, with decrease of the clear subcutaneous space.

Interpretation: Diffuse hyperplasia of the connective tissue or of the epithelial tissue, with retention of liquid.

Unlimited Spots and Cloudlike Formations (Fig. 2*A*): Cotton-like small dark areas appear, their contours being indistinct and multishaped. They vary in diameter from 0.5 to 1 cm. Their distribution shows a spread within the limits of the mammary area, and a tendency to group together and to take on a cloudlike appearance.

Interpretation: Clusters of hyperplastic lobules surrounded by lymphatic reaction.

Micronodular Opacities (Fig. 2*B*): The contours of these opaque areas are more or less diffuse. The opacities range in diameter from 2 to 6 cm. They are distributed in a spreading manner within the limits of the mammary area, sometimes appearing oriented toward the nipple, like beads in a rosary. They undergo no evolution after the menopause.

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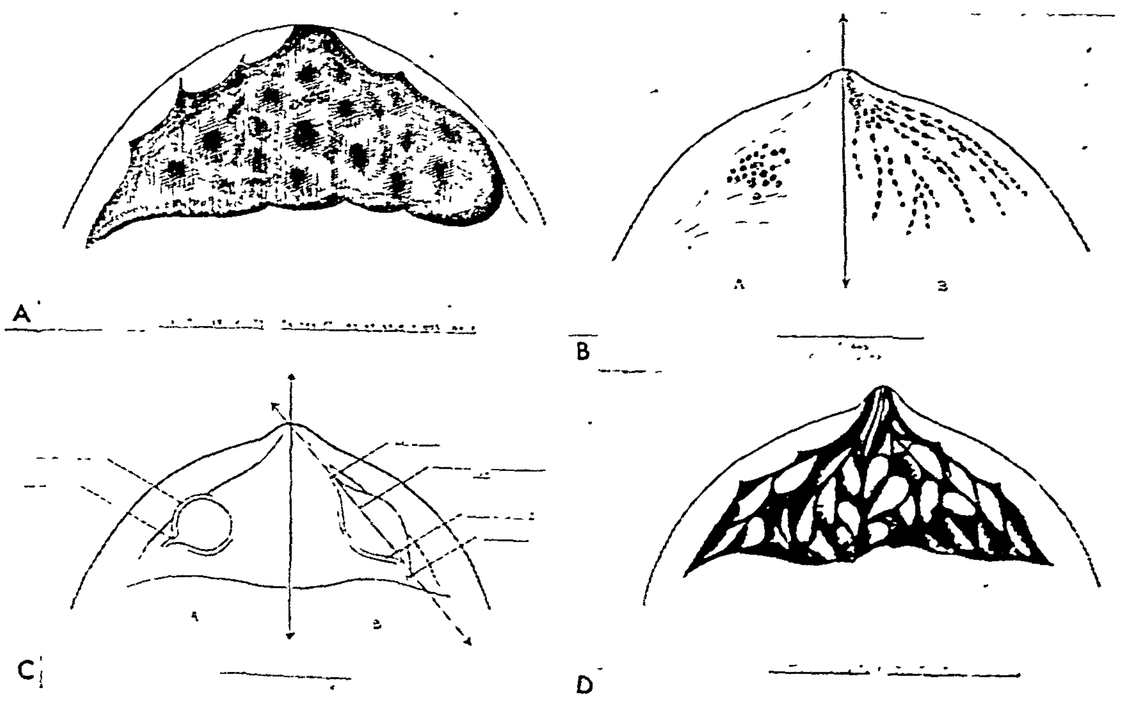

Fig. 2.—*A*, diagram of unlimited spots and cloud formations. *B*, diagram of micronodular opaque areas. *Left*, spread; *right*, orientation toward nipple. *C*, diagram of macronodular opaque areas. *Left*, approaching round; *right*, spindle-like. *D*, diagram of oval areas of translucence.

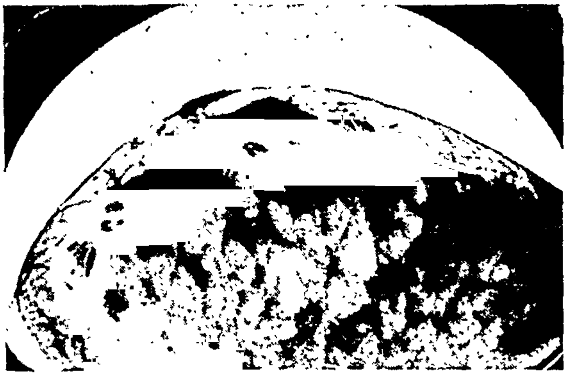

Fig. 3.—Mastosis Type 1 (plain mammogram). Note oval translucent areas in superimpression on mammary gland.

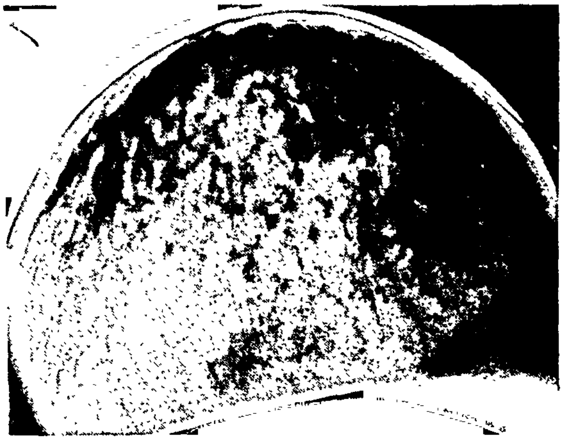

Fig. 4.—Mastosis Type 2 (plain mammogram). Note micronodular opaque areas spread throughout breast. Axes converge toward nipple.

2*D*) and frequently reveal tails.

Abnormal Translucent Areas: Oval translucent areas (Fig. 3) are seen as clear spaces limited by precise lines, their diameters ranging from 1 to 2 cm. Their distribution suggests crowding and forms a large meshed pattern.

Interpretation: Fibrous thickening of Cooper's ligament.

Associated Symptoms. — Calcifications: These are of two types*: (a) microcalcifications, either spread or crownlike around the cysts, and (b) macrocalcifications, disseminated, large, round and nonhomogeneous.

Interpretation:

a. Calcium deposit of the products of central necrosis of the newly developed ducts.

b. Calcification of the wall of the microcyst.

There are no associated skin changes.

A "visual-touch" comparison (image size with touch size) is made.

Synthetic Study of the Grouped Images. — These elementary images can be grouped, according to different types.

Type 1 is characterized by oval translucent areas, localized or generalized, superimposed on a mammary gland of normal appearance (Fig. 4).

Interpretation: Hyperplasia of the connective tissue, principally of Cooper's ligament, and fat tissue within the walls.

With Type 2 the opaque areas are micronodular, with precise or diffused contours, often beadshaped, on axes converging toward the nipple. They exist, generally speaking, in fatty para/post catamenial breasts (Fig. 5, *A*, *B* and *C*).

Interpretation: Grain-shaped dilatations of the milk ducts, whose walls are thicker.

Type 3 is a plate-shaped opacity, localized or generalized, of homogeneous radiologic density (Fig. 5, *D*), associated with (a) indistinct spots and cloudlike formations; (b) microcysts (very frequently); (c) oval translucent areas (frequently), and macrocysts (rarely).

Interpretation: Diffuse hyperplasia of connective tissue or epithelial tissue.

Type 4** represents the macronodular opacities (Figs. 5*E* and *F* and 6). These are either multiple, with spindle-shaped or round areas of darkness, precise contour, or single, spindle-shaped or round, with varying contours.

Interpretation: Cystic disease.

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*These elements, separately studied, are, in general, more or less grouped, and show all the transitional forms.

**It is sometimes very difficult to differentiate between this type and carcinoma.

CONCLUSIONS

Pathogenesis.—The roentgen study of mastosis, associated with its pathologic aspects (not here presented) reveals the unity of the disease, which is characterized by a varied mixture of the epithelial and stromal hyperplasia with fibrosis. It is an organic answer to a deviate endocrine stimulus. *A priori*, a trial of medical treatment must precede surgical intervention, which is indicated at the slightest suspicion of malignant change.

Diagnosis.—To the question "Are roentgen rays able to help in the diagnosis of mastosis?" we have shown that this disease has roentgenographic symptoms very different from those of carcinoma, permitting its identification.

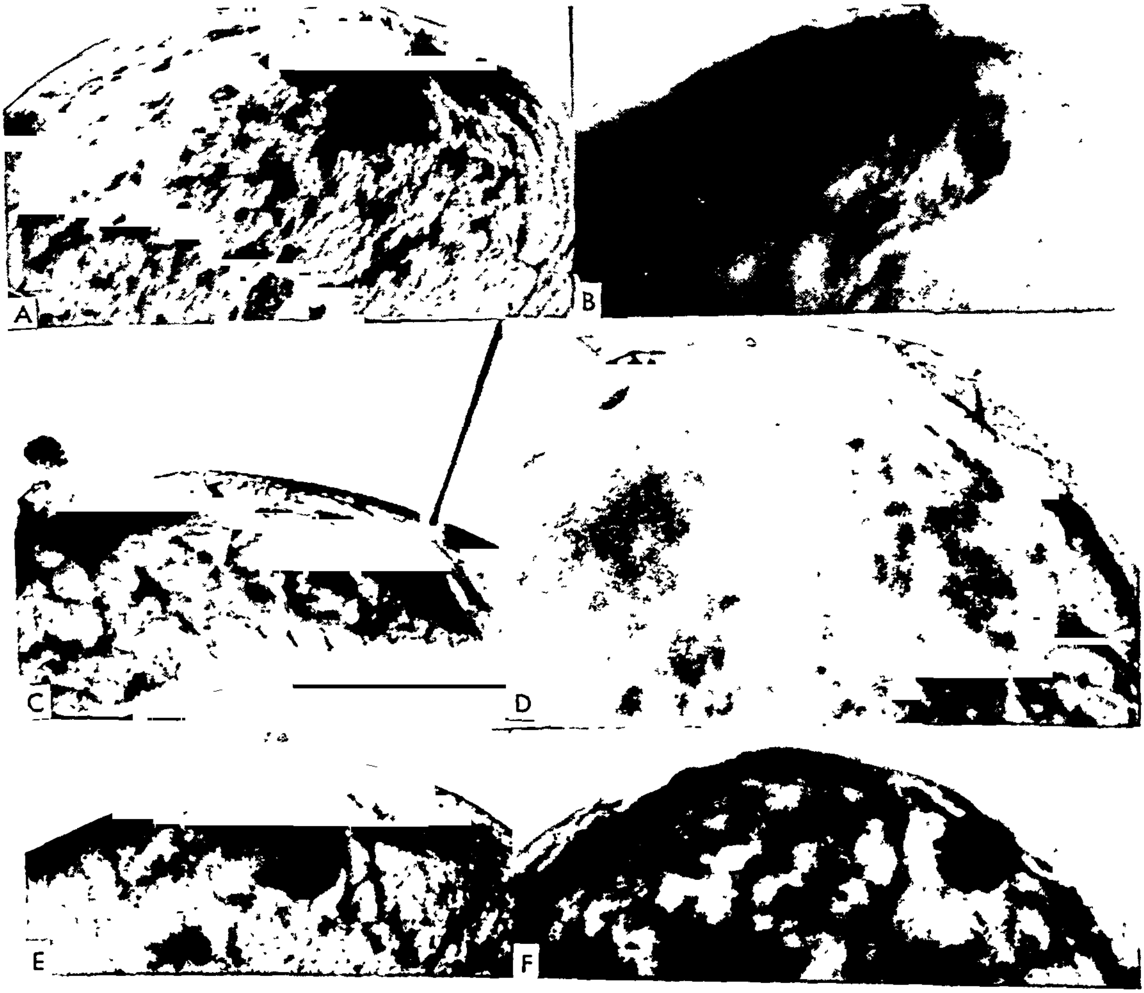

Fig. 5.—*A*, mastosis Type 2 (plain mammogram). Micronodular opaque areas here are increased in density and visible throughout. *B*, mastosis Type 2 (contrast mammogram in case of secreting breast). Many branches of injected duct show small pseudocysts with axes converging toward nipple. *C*, mastosis Type 3 (plain mammogram). Note localized plate-shaped opacities, associated microcysts and translucent areas. *D*, mastosis Type 3 (plain mammogram). Note plate-shaped opaque area and translucent areas. *E*, mastosis Type 4 (plain mammogram). Precise round macronodular opaque area (cyst) converging toward nipple. Note clear borderline space and monopolar tail. *F*, mastosis Type 4 (plain mammogram). Precise round macronodular opaque area (macrocyst) converging toward nipple, with monopolar tail.

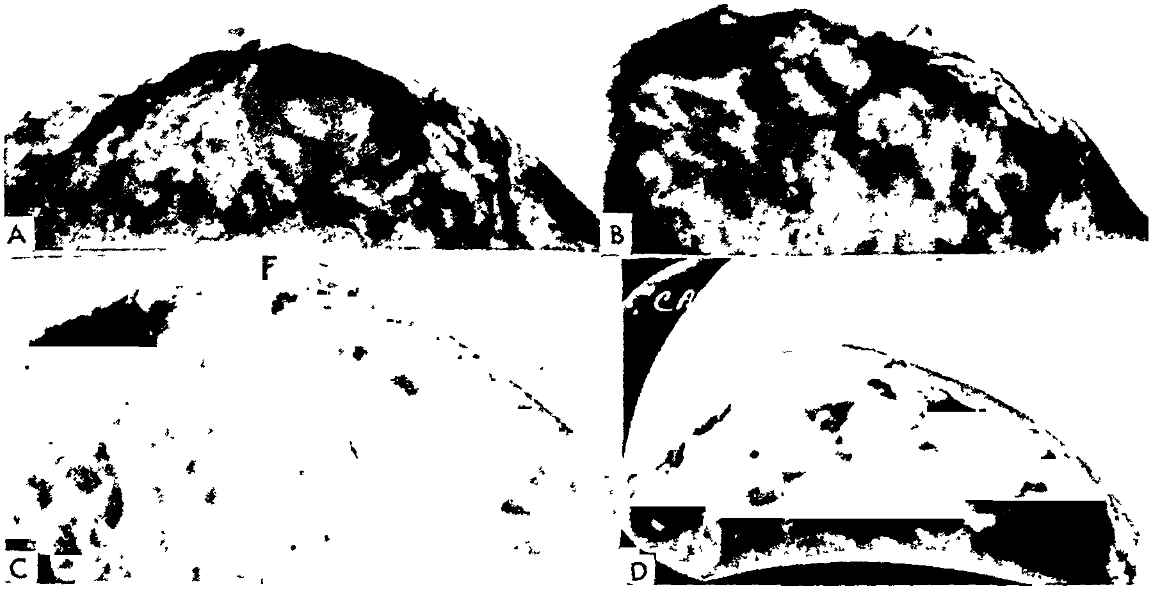

Fig. 6.—*A*, mastosis Type 4 (plain mammogram). Larger oval macronodular opaque area (macrocyst) converging toward nipple; less precise contour. Note associated translucent areas and microcysts. *B*, mastosis Type 4 (plain mammogram). Note spindle-like opaque area (macrocyst) with two tails, converging toward nipple. *C*, mastosis Type 4 (plain mammogram). Large spindle-like opaque area (macrocyst) converges toward nipple. *D*, mastosis Type 4 (plain mammogram). Note multiple cysts converging toward nipple.

Micronodular mastosis, however, is frequently associated with images suggesting malignant tumor. Is it possible that malignant transformation may occur in a mastotic process? This question cannot be answered from the radiologic standpoint.

Practically speaking, it would be wise for every woman who has functional and organic symptoms of mastosis to undergo periodic roentgen examinations, the results of which can aid the surgeon in his decision.

CONCLUSIONS

L'étude radiologique de la mastose, associée à ses aspects pathologiques (non décrits ici) montre l'unité de cette affection caractérisée par un mélange varié d'hyperplasie épithéliale et stromale avec fibrose. C'est une réponse organique à un stimulus endocrinien dévié. *A priori*, un essai de traitement médical doit précéder l'intervention chirurgicale qui est indiquée lorsqu'il y a la moindre suspiscion de modification maligne.

A la question: "Les rayons X peuvent-ils aider au diagnostic de mastose?" les auteurs répondent que cette affection présente des symptômes radiologiques très différents de ceux du carcinome, permettant son identification.

Cependant la mastose micronodulaire est fréquemment associée à des images suggérant des tumeurs malignes. Une transformation maligne peut-elle se produire dans un processus de mastose? Il n'est pas possible de répondre à cette question du point de vue radiologique.

Pratiquement parlant il serait sage que toute femme présentant des symptômes fonctionnels et organiques de mastose, fût soumise à des examens radiologiques périodiques, dont les résultats peuvent aider le chirurgien dans sa décision.

RESUMEN

El estudio radiológico de las mastosis en unión con sus aspectos patológicos (que no se presentan en este trabajo), muestra

la unidad de la afección caracterizada por una combinación del estroma con fibrosis. Se trata de una respuesta epitelial a un estímulo endocrino irregular. *A priori* el tratamiento médico de prueba debe preceder a la operación que a su vez está indicada a la más ligera sospecha de alteración maligna.

A la pregunta de si los rayos X pueden ayudar en el diagnóstico de la mastosis responde el autor diciendo que esta enfermedad tiene signos radiológicos muy diferentes de los del carcinoma, lo que permite su identificación.

De todas formas la mastosis micronodular se asocia frecuentemente con imágenes que sugieren el tumor maligno. ¿ es posible la transformación maligna de la mastosis? Esto no puede ser constestado desde el punto de vista radiológico.

Hablando practicamente sería conveniente que cada mujer con síntomas orgánicos o funcionales de mastosis se sometiese periodicamente a un exámen radiológico cuyos resultados ayudarían al cirujano a tomar la decisión más acertada.

SCHLUSSFOLGERUNGEN

Die Roentgenuntersuchung der Mastosis zeigt gemeinsam mit den pathologischen Befunden, auf die in der Arbeit nicht eingegangen wird, dass es sich um eine einheitliche Erkrankung handelt, die durch verschiedenartige Mischungen von Hyperplasie des Epithels und des Stromas mit Fibrose gekennzeichnet ist. Die Erkrankung ist eine organische Reaktion auf einen abwegigen endokrinen Reiz. *A priori* muss ein Versuch medizinischer Behandlung einem chirurgischen Eingriff, der beim leisesten Verdacht auf boesartige Veraenderungen angezeigt ist, vorangehen.

Die Frage, ob die Roentgenuntersuchung zur Diagnose der Mastosis beitragen kann, beantworten die Verfasser mit der Feststellung, das die Erkrankung roentgenologische Befunde aufweist, die sich von denen des Krebses deutlich unterscheiden und die Erkennung der Krankheit gestatten.

Die kleinknotige Mastosis jedoch geht haeufig mit Bildern einher, die das Bestehen boesartiger Geschwuelste vermuten lassen. Die Frage, ob es moeglich ist, dass ein mastotischer Krankheitszustand in eine boesartige Erkrankung umgewandelt wird, laesst sich vom roentgenologischen Standpunkt aus nicht beantworten.

Vom praktischen Standpunkt aus sollte jede Frau, die funktionelle und organische Erscheinungen von Mastosis aufweist, sich periodisch einer Roentgenuntersuchung unterziehen, die dem Chirurgen in seiner Entscheidung hilfreich sein hann.

RIASSUNTO

Lo studio radiologico della mastosi dimostra l'unità nosologica della malattia, che e caratterizzata da una mescolanza diiperplasia epiteliale e stromale associáta a fibrosi. Si tratta di una risposta organica ad uno stimolo endocrino abnorme. Un tentativo di cura medica deve sempre essere fatto prima di procedere all'intervento chirurgico, il quale trova la sua indicazione al minimo sospetto di trasformazione neoplastica.

Alla domanda se l'indagine radiologica possa essere di aiuto nel porre la diagnosi di mastosi l'autore risponde che questa malattia ha segni radiologici molto diversi da quelli del carcinoma, e che pertanto la differenziazione è possibile.

La mastosi *micronodulare*, tuttavia, si associa spesso ad immagini che fanno pensare al tumore maligno; è possibile che la trasformazione maligna avvenga su un processo di mastosi? A questa domanda non si può rispondere dal punto di vista radiologico.

In practica sarebbe saggio per ogni donna con disturbi funzionali e organici

di mastosi sottoporsi periodicamente ad esami radiologici, che possono aiutare il chirurgo a prendere le sue decisioni.

CONCLUSOES

O estudo roentgenologico da mastose, associado com seus aspectos patologicos, aqui não apresentados, mostra a unidade da molestia, que se caracterisa por mistura variada de hiperplasia epitelial e estromal com fibrose. E' uma resposta orgânica a um estímulo endócrino desviado. *A priori*, uma tentativa de tratamento médico deve preceder a intervenção cirúrgica, que se indica na mais leve suspeita de transformação maligna. A' pergunta "Serão os raios X uteis no diagnostico da mastose?", o s AA. respondem que esta molestia tem sintomas radiologicos muito diferentes do carcinoma, permitindo sua identificação.

A mastose micronodular, contudo, é frequentemente associada a imagens que sugerem tumores malignos. E' possivel a ocurrência de transformação maligna em um processo mastotico? Esta resposta não pode ser dada do ponto de vista radiologico.

De uma maneira pratica, pode se aconselhar a todas as mulheres portadoras de sintomas organicos e funcionais de mastose a se submeterem a exames radiologicos periodicos, cujos resultados poderão auxiliar o cirurgião na sua decisão.

◆

> The best decubitus is that which is customary in health. To lie on the back with the legs stretched out is not a pretty sign, and if the patient slips head first towards the feet, it is worse. It is also a sign of death to have the mouth open and to sleep all the time; or to lie on the back with the legs violently flexed and intertwined. To lie prone, unless this is customary, indicates delirium or pain in the belly. To have the feet and hands uncovered, unless they are extremely hot, and to throw the legs about, is bad as it denotes acute distress. To want to sit up, in acute diseases, is bad, especially in pneumonia and pleurisy. The patient should sleep at night and be awake during the day; the opposite is bad. The least harmful thing is for the patient to sleep from the early morning till the middle of the forenoon; sleep after this is bad. The worst sign is for the patient to sleep neither day nor night, as such insomnia indicates either pain and distress. or delirium.
>
> —*Hippocrates*

Ophthalmologic Surgery

Trends in the Surgical Treatment of Cataract

With Special Reference to Cataract Associated with Chronic Simple Glaucoma

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The author emphasizes the delicacy of ophthalmic surgery and the technical skill required of the surgeon, after which he takes up the anesthetics employed from a comparative point of view. In the same manner he discusses the surgical extraction of cataract, outlining point of technic and commenting on certain controversial points. The treatment of glaucoma complicated by cataract and the simultaneous removal of bilateral cataract are also described. In his opinion the future progress in this field will depend on improvements in diagnosis, in preparation of the individual patient, and in surgical technic of the advanced type.

OPHTHALMIC surgery is the most critical of all branches of surgical work. The dividing line between success and failure is often not more than a hair's breadth, and the degree of coordination required between hand and eye is of the highest order. Clearly such manual dexterity is not to be easily acquired by any, and it is never acquired at all by some. Nevertheless, with diligence and experience, most surgeons develop sufficient skill to perform ophthalmic operations with safety in most cases and occasionally with brilliance. Some degree of ambidexterity is also a great asset, and it should be sedulously cultivated—although we agree with Burnell Carter, who remarked that those people never become ambidextrous who are born ambisinistrous! Twenty years ago, Moniham laid down three of the most necessary attributes of the surgeon: "The lady's hand, the lion's heart and the eagle's eye." This applies particularly to ophthalmic surgery.

Anesthesia.—It is assumed that a correct diagnosis has been made and operation for cataract is indicated. Also, a complete history has been taken and physical examination, including laboratory and bacteriologic studies, has been carried out.

Preliminary Anesthesia: The patient is admitted to the hospital twenty-four hours prior to the operation. On the night before the operation, mild sedation (3/4 gr. Nembutal with 25 mg. Thorazine) is given. Thorazine (25 mg.) is given on the following morning at 9 and the same dose repeated at 1 p.m. The operation is begun at 3 p.m. The use of Thorazine is one of the outstanding advances in anesthesia. It po-

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Read at a meeting of the Mid-Atlantic Regional Division, United States Section, International College of Surgeons, Hot Springs, Virginia, November, 1958.

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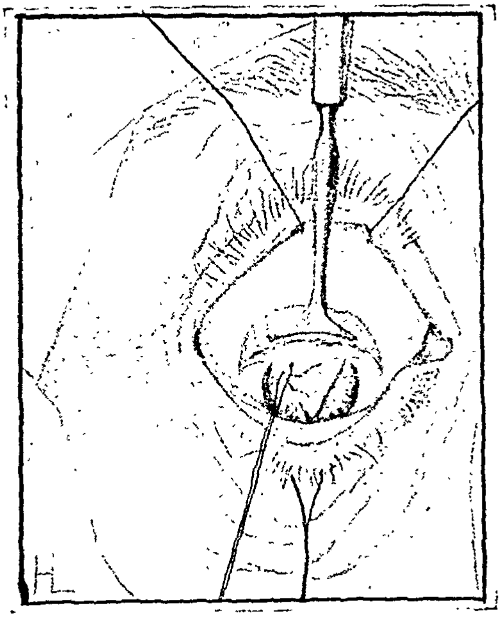

Fig. 1 (see text).

tentiates the action of morphine, prevents postoperative nausea and vomiting and has a quieting effect on the emotional patient. Many patients who heretofore became confused and uncontrollable are now easily managed with the aid of Thorazine. The preliminary sedation in our clinic consists of administering ½ gr. of Nembutal one hour prior to operation, along with Thorazine. Every case is individualized, and the aforementioned drugs are altered to fit the patient's condition. Sometimes less and sometimes more of the drug is given. It is always well to test the patient's sensitivity to these drugs. We never employ general anesthesia or any type of intravenous anesthesia.

Topical anesthesia is induced by four administrations of 1 drop of 4 per cent cocaine, three minutes apart. Meticulous care is taken to prevent any of the drug from entering the nasal lacrimal duct. For injections to induce anesthesia akinesia, either procaine hydrochloride 2 per cent or Xylocaine hydrochloride 2 per cent may be used. We prefer the Xylocaine, as the anesthesia lasts longer and postoperative pain is minimized. Epinephrine hydrochloride is added to this solution.

We formerly used Hyaluronidase with this solution, because it caused greater diffusion and thus enhanced the anesthesia akinesia. We now omit this drug, as we have concluded that the diffusion lessens the effect of the anesthesia, thereby causing the patient more pain. We employ the VanLint method, using the same strength solution to produce akinesia of the orbicularis muscle. Retrobulbar injection is used in most cases, but it is not always necessary. When it is used, we take great care to see that the point of the needle is moving while the solution is being injected, to prevent hemorrhage. Some surgeons place great emphasis on gentle pressure upon the eyeball for two or three minutes after retrobulbar injection. In our experience this makes very little difference. After the aforedescribed technic has been followed, if the patient should have pain or be uncontrollable, we do not hesitate to give additional sedation on the table, usually morphine, ⅛ gr. intravenously.

Conjunctival Flap.—A conjunctival flap is made 3 to 4 mm. in front of the limbus and a full 180 degrees. Too much emphasis cannot be laid upon the importance of a good, firm conjunctival flap, which includes episcleral tissues as well.

In our hands the use of the conjunctival flap is the greatest single factor in the prevention of epithelial downgrowth. Before the incision is made, all bleeding is thoroughly under control and the field of operation perfectly dry. The bleeding can be controlled by the use of epinephrine or the vessel coagulated by the application of a heated strabismus hook.

We use, as a minimum, three corneoscleral sutures at 3 o'clock, 9 o'clock and 12 o'clock. The sutures are placed after the incision is made, with great care not to injure the iris or include any of the conjunctival tissues in the wound. The ture at 12 o'clock is a traction suture d goes through the layers of the cornea til the lens is removed. After this, the leral sutures are tied in an appositional anner; the conjunctival flap is brought own and closed over the corneoscleral utures, thus giving this a layer of corneoscleral sutures and conjunctival sutures. Ve use No. 6-0 chromic catgut.

Incision.—A great deal has been written n recent years concerning the advisability f using a keratome incision or the knife ncision. Formerly a person who used a eratome incision was considered a "sissy" nd a clumsy surgeon. In more recent ears the majority of surgeons have been onverted to the keratome incision. A hollow-ground keratome is used routinely in our clinic, and the incision is enlarged with scissors to a full 180 degrees. One reason for failure to deliver the cataract intracapsularly is the fact that the incision is too small.

Wound Closure.—Many ophthalmic surgeons have witnessed the evolution from "no sutures" to conjunctival sutures and to corneoscleral sutures. Again, the preponderance of the evidence is in favor of corneoscleral sutures.

Round Pupil Versus Iridectomy.—The technic of operation for cataract has undergone many changes in the past fifteen or twenty years. A review of the literature will reveal that, formerly, ophthalmic surgeons would do a preliminary iridectomy prior to cataract extraction, thus making two procedures out of one. It took many years for the surgeons to abandon the two-stage operation. After that there was a great deal of discussion and difference of opinion as to the advisability of choosing a small iridectomy, a peripheral iridectomy or a round pupil. At present we attempt to achieve the round pupil without iridectomies or iridotomies.

It has many advantages, as well as some disadvantages. The principal advantage is that the round pupil does hold back the vitreous, has a better cosmetic appearance and has less postoperative photophobia. One should always realize, however, that a knife should never be thrust into a patient's eye to give a surgeon a thrill or to give the patient a beauty treatment. What is best for the patient should always be done.

Extracapsular Versus Intracapsular Extraction.—Those who have been performing ophthalmic operations for many years are familiar with the battle between the choice of extracapsular or intracapsular

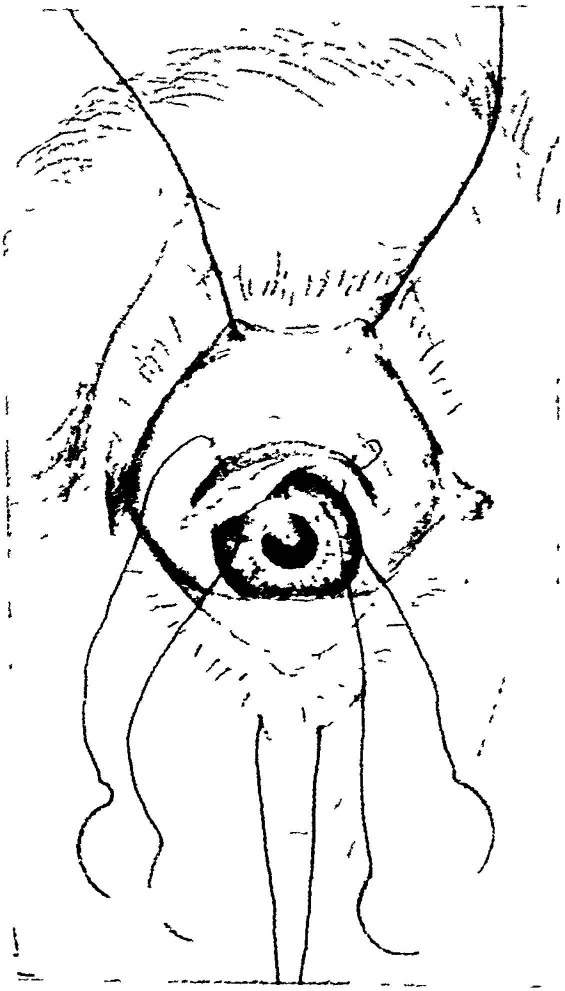

Fig. 2 (see text).

cataract extraction. At present the evidence is entirely in favor of intracapsular extraction. I attempt it in all cases and, with careful technic, the surgeon as well as the patient being under complete control, and the employment of time and patience, the intracapsular extraction should be successful in at least 95 per cent of the cases, particularly since the introduction of Chymotrypsin in the surgical treatment of cataract. This agent has definitely proved that it has a selective action, in that it dissolves the zonules and produces no unfavorable side effects.

After removal of the lens 1 or 2 drops of 5 per cent carcholine and Zephvian 1:3,000 is instilled into the eye. This agent produces prompt and satisfactory miosis. This is a most important step in the operation, as it contracts the pupil, which does tend to prevent prolapse of the iris, and the pupil is always dilated with atropine on or before the eighth postoperative day.

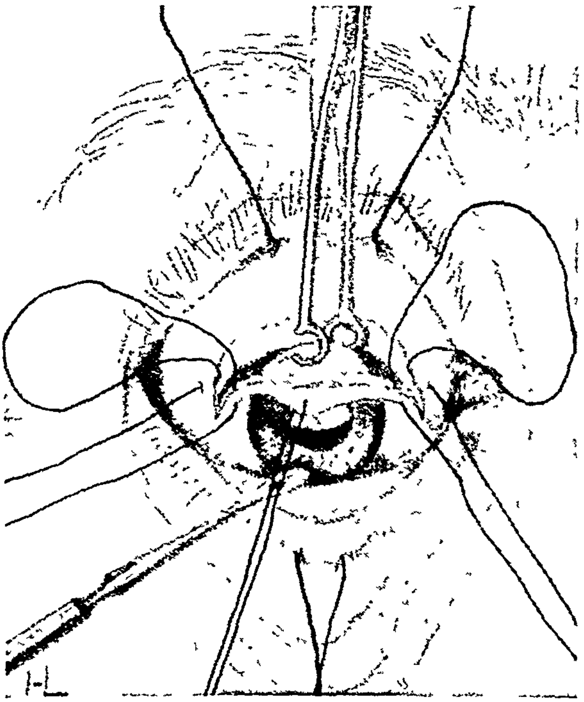

Fig. 3 (see text).

The postoperative recovery is much smoother, and the annoying complication of retained membrane, necessitating discission, is no longer to be considered.

Suture Material.—We routinely use No. 6-0 chromic catgut for cataract operations, both for the corneoscleral sutures and for closure of the conjunctiva. It is a great comfort to the patient to know that he will not need further operations on his eyes. Formerly we used silk sutures, and the patient would spend a week to ten days looking forward with mortal dread to having the sutures removed. It is certainly a factor in a good convalescence when the patient knows he does not have to return to the operating room for further procedures.

We find that the wound closes just as well with catgut as with the silk, and the absorption period is usually ten to twelve days. We have not had a case of infection from catgut sutures.

Bandaging Only One Eye.—It is only in recent years that surgeons have become convinced that bandaging one eye is not harmful to the patient. All can remember the days when both eyes were bandaged, when occasionally sandbags were put at each side of the head and when the hands were tied down and kept in this position, sometimes for a number of days. In spite of all the writings by various ophthalmologists in recent years on the advisability of bandaging only one eye, one still occasionally sees and hears of surgeons who keep the patient flat on his back for two weeks, with both eyes bandaged. This is a terrible shock to anyone, particularly a senile patient. It is nothing short of cruel and barbarous. Every time anyone makes a distinct change in the orthodox technic, he does it at the risk of being called radical. Advances in surgery are made only by those who are willing to develop an idea and have the courage to put it into practical application. The practice of bandaging only one eye is certainly a comfort to anyone, particularly a senile patient in strange surroundings. It helps to prevent mental confusion and sometimes dementia.

Early Ambulation.—We operate on our patients between 3 and 5 p.m., and the next day at 9 a.m. I have them out of bed. They must get out if at all possible. We have them get up in the afternoon, and they spend an hour out of bed in the morning and afternoon following the operation.

This, in our opinion, helps to prevent circulatory and respiratory complications, and it adds to the patient's comfort and well-being. We no longer hear people complaining of distressing backaches after maintaining the same position in bed for a number of days.

When early ambulation was first introduced in our clinic, my co-workers and I were subjected to a great deal of criticism by some of our colleagues. They insisted we were inviting disaster and all types of complications; experience, however, proved them wrong. Nothing gives more comfort to a patient, when he comes to the hospital for an operation, than being told that only one eye is to be bandaged, that he will be out of bed the day after the operation and that the hospital stay will be only seven or eight days.

The Management of a Case of Glaucoma Complicated by Cataract.—The management of the patient with glaucoma complicated by a cataract has always taxed the ingenuity of the ophthalmic surgeon. The pendulum of opinion has swung back and forth between operating first to relieve the glaucoma, or first to remove the cataract. We have done both procedures, and neither has been too successful in our hands.

We have at last been converted to doing the combined iridencleisis and cataract extraction. Here again is a controversial opinion, one that will require time and observation to prove its validity. It is not our purpose to upset the equilibrium of any ophthalmic surgeon who may read these lines, but anyone who is not satisfied with the procedure he has been following in treating this complication is advised to consider this procedure.

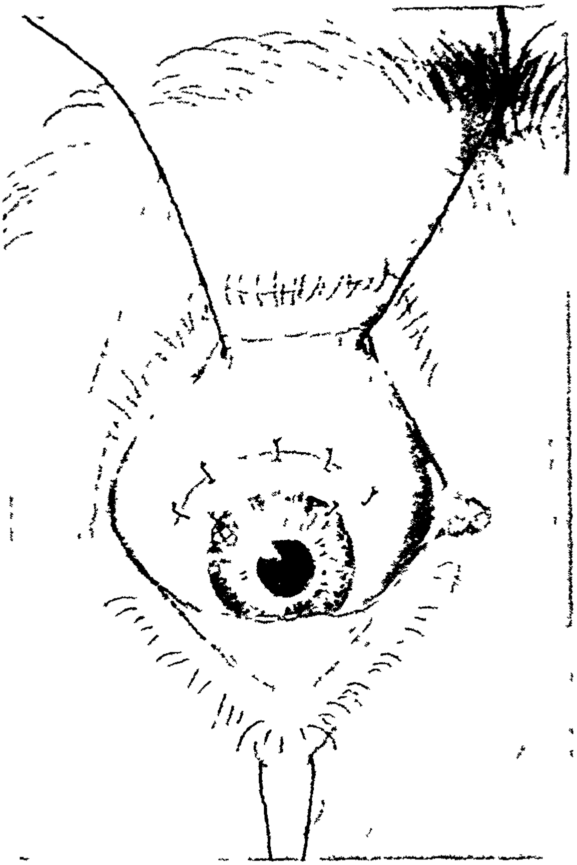

Fig. 4 (see text).

Simultaneous Removal of Bilateral Cataracts.—This procedure is one that has not been generally adopted and has been reported in the literature by very few surgeons. The objections to this procedure are many, and there are few indications for it. Again, when anyone advocates a new procedure that is contrary to the prevailing opinion and sentiments, he runs the risk of being called radical.

We have performed simultaneous cataract extractions on 4 patients, and in 2 instances we have operated on both eyes at five-day intervals during one hospital stay.

Some of the objections to bilateral cataract extraction are obvious. First, any intraocular operation is fraught with hazard. Should a complication, such as an intraocular hemorrhage, occur and the patient become aware that something has gone wrong, the psychic strain may damage the fellow eye. Second, there is an increased possibility of intraocular infection. With antibiotics, chemotherapy and steroids, however, intraocular infection at present has little clinical significance. With the use of tranquilizing drugs, the patient is more easily controlled and there is less likelihood that complications will develop from emotional upset or strain. Third, after this operation, for twenty-four to forty-eight hours, both eyes must be bandaged. This, as has been mentioned, causes confusion in some patients. With the use of Thorazine, that complication can usually be prevented.

The added financial burden of two operations and the necessity of subjecting the patient to two hospital admissions are avoided by the simultaneous operation.

In selected cases this procedure should be given careful consideration. In an elderly patient, when the cataracts are at about the same stage of development in the two eyes and the patient lives some distance away and finds it difficult to come back and forth for treatments, the simultaneous operation may be desirable.

In suggesting this procedure, we do so with a great deal of hesitation. This advance, like other advances in surgical procedures for cataract, will probably have a wider acceptance in the future. Only time, careful observation and the reporting of results will prove or disprove the merits or demerits of the procedure.

Use of Contact Glass in the Aphakic Eye.—In our opinion the ophthalmic surgeon should make use of contact glasses for aphakic eyes. Many patients wear these with comfort and satisfaction. Binocular vision is a most useful visual aid.

Prognosis.—The future progress of the surgical treatment of cataract lies in better diagnosis, better preparation of the individual patient, better surgical technic, the discard of procedures known to be traumatizing and ineffective and the fitting of the best and most advanced technics to the individual case.

RÉSUMÉ

L'auteur fait ressortir le fait que la chirurgie ophtalmique est une chirurgie très délicate exigeant une grande habileté. Il présente une étude comparative des divers anesthésiques, discute les différents points techniques de l'extraction de la cataracte (dont certains sont controversés), décrit des cas de glaucomes compliqués de cataracte ainsi que l'extraction en un temps d'une cataracte bilatérale. Les progrès dans ce domaines sont subordonnés aux perfectionnements techniques et diagnostiques, ainsi qu'à la méthode de préparation individuelle des malades.

RIASSUNTO

L'autore sottolinea l'importanza della delicatezza nella chirurgia oculare e della abilitá tecnica, quindi tratta delle varie anestesie in uso. Poi descrive l'estrazione chirurgica della cataratta, nei suoi vari dettagli di tecnica, e discute alcuni punti controversi. Descrive, infine, la cura del glaucoma complicato da cataratta e la rimozione simultanea della cataratta bilaterale. Egli é dell'opinione che i progressi futuri in questo campo dipenderanno dal miglioramento nella diagnosi, dalla preparazione accurata dei malati e dai progressi nella tecnica chirurgica.

RESUMEN

El autor subrraya la delicadeza y habilidad técnica que debe poseer el cirujano oftalmólogo así como la importancia desde el punto de vista de la anestesia. También describe el tratamiento del glaucoma complicado con catarata así como la extirpación simuntánea de ambas cataratas. Según la opinión del autor el futuro progreso en este campo dependerá de la mejoría del diagnóstico, de la preparación individual del enfermo y de la técnica quirúrgica en cada caso.

ZUSAMMENFASSUNG

Der Verfasser hebt die Feinheit chirurgischer Eingriffe am Auge und die Kunstferigkeit, die vom Chirurgen dabei erwartet wird, hervor und geht dann auf einen Vergleich der verschiedenen angewandten Betäubungsmethoden ein. Er erörtert ferner die chirurgische Herausziehung des grauen Stares, umreisst Probleme der Technik und äussert sich über gewisse strittige Punkte. Ferner werden die Behandlung des durch Linsentrübung komplizierten Glaukoms und die gleichzeitige Entfernung des doppelseitigen grauen Stares beschrieben. Er ist der Meinung, dass weitere Fortschritte auf diesem Gebiet von Verbesserungen der Diagnostik, der individuellen Vorbereitung des Kranken und der chirurgischen Technik abhängen.

SUMARIO

Salienta a tecnica delicada e a habilidade necessaria ao oculista. Discute a extração das cataratas, pormenores da tecnica *comentando os pontos controvertidos.* Descereve o tratamento do glaucoma complicado por catarata e diz que os progressos futuros estão na de pendencia de diagnostico, preparação do doente e na perfeição da tecnica cirurgica.

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Patients suffering from some constitutional disease should not be subjected to any but urgent operations till their state has been studied and improved. A hallux valgus operation in a diabetic should be left till he has been brought to stable equilibrium with insulin. The repair of a hernia in a bronchitic should wait for summer weather. Many non-urgent operations for the correction of defects or blemishes, which are difficult and even dangerous when attempted in the infant, become simple and satisfactory when the patient has attained the equanimity, metabolic stability, and anatomical accessibility of childhood.

—*Ogilvie*

Otorhinolaryngologic Surgery

Recent Advances in Adenotonsillectomy

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NO apology is necessary for another paper on adenotonsillectomy. It is a dynamic subject and worthy of repeated discussion. I propose a consideration of the current advances in concept and technic of adenotonsillectomy. I shall not dwell on the pathophysiologic and immunologic aspects of Waldeyer's ring of subepithelial lymphoid tissue, or the question of the effect of repeated and prolonged use of antibiotics on the tonsils and adenoids and the development of antibiotic-resistant strains of organisms. Knowledge of the function of the lymph structures in the pharynx and nasopharynx is incomplete. It is here assumed that the history and examination in a given case have disclosed diseased tonsils and adenoids and that, on the basis of the well-known indications, the operation has been advised.

Advances in the technic of adenotonsillectomy have made the operation safer and more thoroughgoing than it once was. The concept of a direct and complete adenoidectomy has corrected the haphazard methods of the past. The concurrent treatment of associated disease of the ears and sinuses, especially in children, has broadened the value of the operation. The use of endotracheal anesthesia has eliminated some of the dangers and discomforts of local and inhalation anesthesia. When properly indicated and performed with skill, adenotonsillectomy offers increased advantages nowadays.

The term "adenotonsillectomy" was chosen advisedly because of current emphasis on the precise removal of the nasopharyngeal lymphoid tissue. In many cases the adenoidectomy is of first importance; in fact, in some clinics adenoidectomy alone is not infrequently performed, especially on children with hearing impairment associated with hypertrophic adenoids. Indeed, a most significant advance in this field has been the increasing trend toward treating concurrent disease of the ear and sinuses at the time of adenotonsillectomy. The surgical treatment of subacute or chronic infection of the maxillary sinuses and the management of otic disease are now commonplace adjuncts to the removal of the tonsils and adenoids. As Lake[1] has pointed out, secretory otitis media in a child has become an indication for suction myringotomy and adenotonsillectomy at the same time. Even before the antibiotic era, Dean advised removal of the tonsils and adenoids for sinusitis in children. Antral lavage for the purpose of diagnosis and culture, the performance

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of an antrostomy, or the insertion of a polyethylene drainage tube can be easily done at the same time as adenotonsillectomy. In recent years the incidence of subacute ear and sinus infections, often masked by minimal antibiotic medication, has increased. A number of investigations[2] have shown the incidence of unsuspected sinusitis in excess of 20 per cent in patients admitted to the hospital for routine removal of the tonsils and adenoids. One can hardly expect a satisfactory result if adenotonsillectomy alone is performed. The response to the combined conservative surgical treatment has been highly gratifying, often dramatic, both in restoring and maintaining hearing and in clearing obstinate antral infections.

Of course, it is well recognized that in many of these cases other factors are significant. The presence of allergic or vasomotor rhinitis, or the possibility of hypogammaglobinemia, endocrine dysfunction or inadequate antibiotic therapy should be considered and treated before operation is performed.

The technic of adenoidectomy has advanced considerably in recent years. The goal is a visually controlled operation, with accurate removal of all diseased adenoid tissue, hypertrophic salpingopalatine and salpingopharyngeal folds and hyperplastic lymphoid nodules on the posterior pharyngeal wall. After removal of the central adenoid mass with the Kelly or LaForce adenotome, the remaining hyperplastic lymphoid tissue is methodically excised, the punch forceps of Meltzer being employed. Adequate exposure is obtained with the retractors of Love and Senturia, the Yankauer speculum and the postnasal mirror. The lymphoid tissue in the fossa of Rosenmuller is carefully removed after a catheter has been placed in the tubal orifice to identify, and to prevent damage to, the torus tubarius. The bleeding is controlled by pressure and, if necessary, by slip-knot ties.

The technic of adenoidectomy has been modified successfully by many surgeons. I prefer the use of punch forceps to the use of curettes; every effort should be made to keep the pharynx dry and free of loose pieces of tissue. The position of the surgeon at the side or at the head of the patient is immaterial. The end result should be the same—a dry, smooth cavity, free of all visible diseased tissue, without damage to tubotympanic or velopharyngeal function.

Dissection tonsillectomy continues to be the operation of choice in most medical centers. The technic of the closed fossa tonsillectomy and plastic repair of the mucous membrane was introduced by Emerson[3] several years ago. I have been unable to determine whether or not his method has been generally adopted. Some surgeons use a simple figure-of-eight suture, avoiding the pillars, to close the wound. Barton[4] has described a technic of tonsillectomy he considers ideal. The operation includes the dissection technic described by Hyde,[5] the closed fossa method of Emerson and the use of the endotracheal tongue blade devised by Barton.

My experience with the Emerson technic has not been conclusive. After a trial period of suturing the tonsil fossa, I returned to my original method. I was unable to find any change in the incidence of primary or secondary bleeding, in the degree of postoperative discomfort or in the rate of healing. If the bleeding vessels are carefully tied and a dry fossa obtained, primary hemorrhage is unusual with either technic. Most surgeons are more concerned with the possibility of postoperative adenoid bleeding.

I should like to mention the controversial guillotine tonsillectomy. In spite of adverse criticism, this method continues to be in favor in a surprising number of clinics here and abroad. Proctor[6] has stated, "There is no excuse for the employment of any technic other than surgical dissection for tonsillectomy." The skillful use of the tonsillectome, however, together with separate removal of the plica supratonsillaris and the entire plica triangularis, can be a rapid and efficient method of tonsillectomy. Almost half a century has passed since Sluder introduced the guillotine-mandible technic in which both the tonsil and its surgical capsule are removed, and the controversy continues. If the use of this instrument is combined with removal of associated lymph-bearing structures in the tonsil fossa, on the posterior pharyngeal wall and in the lingual area, a satisfactory result will be obtained. I may add that even in a dissection tonsillectomy some of these structures can be missed.

At this point I should like to stress the fact that adenotonsillectomy can be a formidable procedure requiring the skill of a trained surgeon. It has been said that the so-called simplicity of tonsillectomy has encouraged untrained physicians to perform the operation. Tonsillectomy is not a minor procedure. It is an operation with a significant mortality rate. The time has come to discontinue classifying surgical procedures as major and minor operations. Any patient with a condition worthy of admittance to the operating theatre is heir to the same major anesthetic, operative and postoperative hazards, regardless of the location or duration of the operative procedure. A minor operation is an office procedure.

Without a doubt, the refinements of modern anesthesia have contributed greatly to the improvement of adenotonsillectomy technic. The increased use of intravenous anesthesia and endotracheal intubation, especially for older children and adults, has provided a smooth induction for the patient, a tranquil operating period for the surgeon, a continuously patent airway and a rapid recovery from the effects of the anesthetic agent.

With practice, the nuisance of the intratracheal tube in the pharynx becomes less bothersome. The effortless respiration of a patient fully oxygenated lessens the dangers of anoxia, bronchial aspiration and cardiac arrest. The early return of the pharyngeal reflex, the low incidence of nausea and vomiting and the infrequency of thoracic complications mark endotracheal anesthesia as ideal for pharyngeal surgery.

The advent of the Salk vaccine has probably changed the importance of the much debated association of tonsillectomy and poliomyelitis. Of course, the presence of an epidemic disease of any kind should contraindicate all forms of elective surgical intervention. The availability of the antibiotic drugs has made adenotonsillectomy a less seasonal operation. In selected cases, especially those in which there is concurrent disease of the upper part of the respiratory tract, there is no need to delay the surgical treatment after the acute process has subsided. If, for instance, in the presence of serous otitis media, suction myringotomy combined with adenoidectomy is necessary, it is unwise to defer the operation, regardless of the time of the year. It should be performed as soon as the preoperative treatment has been completed.

The routine use of antibiotics, hemostatic drugs and vitamins in preoperative and postoperative care, however, is of questionable value. The cases should be individualized and medication given as indicated by the results of physical and laboratory examination. The preoperative and postoperative administration of penicillin to the child who has had rheumatic fever or nephritis, and the careful appropriate treatment of any disease of either the upper or the lower part of the respiratory tract are distinctly necessary. Rhoads and his associates[7] have shown the effect of preoperative treatment with antibiotics in controlling bacteremia following tonsillectomy. They found the number of cases of posttonsillectomy bacteremia remarkably reduced by several days' preoperative treatment with penicillin. The empiric use of Vitamin C and K before and after the operation is unsound unless it can be shown that capillary disease or hypoprothrombinemia exists.

It is generally agreed that the use of aspergum increases the incidence of secondary postoperative hemorrhage, not because of salicylate-induced hypoprothrombinemia but because of its local effect on the wound. I still routinely use sulfathiazole gum, a medicament I introduced a number of years ago.

The routine practice of determining the preoperative bleeding and clotting time is inadequate and a waste of time and effort. The detection and prevention of abnormal bleeding lies in a searching history. If anamnestic evidence of a hemorrhagic disorder is observed, the suspected bleeder should undergo a complete hematologic study. The advances in modern hematology in identifying the many intricate factors concerned with hemorrhagic disorders have been considerable. Simple bleeding and clotting times may be normal and may mask a variety of possible thrombopathic states. If the deficient factor responsible for the abnormal bleeding can be recognized, the surgeon is in a better position to correct or control the hemorrhagic problem. The successful use of steroid therapy, fresh frozen plasma and specific plasma fractions, as well as the transfusion of platelet concentrates and washed red cells, is recorded in the literature.

It is true that at times a complete battery of tests may fail to disclose the deficit in the hemostatic mechanism in a known bleeder. If the operation cannot be avoided in this instance, transfusions of fresh whole blood or plasma usually control the bleeding.

The psychic influence of adenotonsillectomy on the child has received considerable attention in the recent past. The impact of the strange hospital environment and anesthetic management on the child's later emotional life has been stressed, and methods of preparing the child for the surgical ordeal have been outlined. The great majority of children do not need special preparation other than friendly, considerate courtesy on the part of the physician and nurse and a simple explanation of the hospital routine on the part of an intelligent mother. The average emotionally balanced child looks upon the operation as an exciting new adventure. It has always been a pleasure to me to find a patient who was suspicious and hostile on preoperative examination changed to a friendly, cooperative child on postoperative examination.

If the child is emotionally disturbed and a product of inadequate parents or a divided home life, no amount of hurried preparation will change his fearful, fretful behavior pattern. The recognition of this type of situation necessitates psychiatric guidance to reduce the incidence of psychic trauma and terror reactions following elective surgical treatment.

ZUSAMMENFASSUNG

Fortschritte in der Technik der Resektion der Rachenmandeln und der adenoiden Wucherungen haben die Operation zu einem sichereren und radikaleren Eingriff gemacht, als es früher der Fall war. Das aufs Geratewohl Operieren früherer Jahre ist aus dem Wege geräumt worden. Die gleichzeitige Behandlung der besonders bei Kindern mit den Wucherungen einhergehenden Erkrankungen der Ohren und der Nebenhöhlen hat den Wert des Eingriffs

gesteigert. Die Anwendung der endotrachealen Anästhesie hat manche der mit der Lokalanästhesie und mit der Inhalationsnarkose verbundenen Gefahren und Unbequemlichkeiten beseitigt. Bei richtiger Indikation und fachmännischer technischer Ausführung bietet heute die Resektion der Rachenmandelwucherungen grössere Vorteile als früher.

RESUMEN

Los avances en la técnica de la adenotonsilectomía han hecho la operación más segura y más completa de lo que había sido anteriormente. El completo de adenoidectomía directa y completa ha venido a corregir los métodos peligrosos del pasado. El tratamiento simultáneo de las enfermedades de los oídos y de los senos ha ensanchado el valor de la operación especialmente en los miños. El empleo de la anestesia endotraqueal elimina varios de los peligros y el sufrimiento de la anestesia local o por inhalación. La adenotonsilectomía cuando bien indicada y ejecutada con habulidad ofrece cada día mayores ventajas.

RÉSUMÉ

Grâce aux progrès techniques l'adénotonsillotomie peut être actuellement pratiquée de façon plus radicale et avec moins de risques. La notion d'adénectomie directe et totale a supprimé les anciennes méthodes aléatoires. Les traitements concomitants (affections des areilles et des sinus) surtout chez les enfants, ont encore accru la valeur de cette intervention. L'anesthésie endotrachéale a éliminé certains des dangers et des inconvénients de l'anesthésie locale et par inhalation. En conclusion, correctement indiquée et habilement exécutée, l'adénotonsillotomie offre aujourd'hui des avantages considérables.

RIASSUNTO

I progressi raggiunti nella tecnica dell'adeno tonsillectomia hanno reso l'intervento più sicuro e più completo di quanto non fosse un tempo; il concetto dell'adenoidectomia diretta e completa ha sostituito i rischiosi metodi del passato. Inoltre il trattamento delle malattie associate delle orecchie e dei seni, specialmente nei bambini, ha accresciuto il valore dell'intervento. L'impiego dell'anestesia endotracheale ha eliminato alcuni degli inconvenienti di quella locale e di quella per inalazione. Quando l'indicazione sia esatta e l' esecuzione corretta, l'adenotonsillectomia offre i massimi vantaggi.

SUMARIO

Os progressos na tecnica da adenotonsilectomia tornaram a operação mais segura e mais divulgada que anteriormente. O tratamento simultaneo de molestias associadas dos ouvidos e seious, especialmente nas crianças, ampliaram o valor da operação. O uso da nascrose endotraqueal eliminou perigos e disconfortos da anestesia local ou por inhalação. Quando devidamente executada oferece as maiores vantagens.

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Proctologic Surgery

Difficulties of Colonic Surgery

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IN his presidential address to the American Surgical Association in April 1958, Dr. John Mulholland made this statement: "I will, therefore, dogmatically support a contention that one cannot be taught, one must learn to be a surgeon."[1] We firmly concur in this statement and are further convinced that a surgeon, in making an honest mistake, can and should learn more by it than by any other means. Perhaps a little less heartbreaking way of learning is to profit by the mistakes of others. We have therefore reviewed the records of a group of patients who have undergone operations on the colon, in whose cases difficulties of one sort or another have entered the picture. We wish to review these cases and to point out the difficulties we have encountered, in the hope that it may enable others to avoid the errors we have made.

Carcinoma of the Cecum and Ascending Colon, Misdiagnosed as Appendicitis or Appendiceal Abscess.—During the past six years we have encountered 2 cases of carcinoma of the cecum or ascending colon misdiagnosed preoperatively as appendicitis or appendiceal abscess. This is not an uncommon error; several series of cases have been reported in which the same misdiagnosis has been made.

Approximately 75 cases of lesions of the colon were encountered by the authors within six years. Of these, 16 cases are briefly reported, with emphasis on the fact that, in the majority of these cases, operation was performed on the basis of an "acute emergency," so that adequate preparation for a colonic procedure was impossible. No patient, in the authors' opinion, should be denied definitive surgical treatment for this reason.

Roentgen diagnostic studies of the colon, though valuable, are not infallible, as some of the cases here reported bear out. A frozen section, taken at operation, in the presence of questionable lesions of the large bowel, should be requested in any case in which it becomes necessary to differentiate between a benign and a malignant lesion.

CASE 1.—The patient, a 73-year-old white man, was sent to the hospital because of pain in the right lower abdominal quadrant, thought to be due to a right indirect inguinal hernia that had been present for more than a year. Recently this hernia had become larger and more painful. One week prior to admission, there was pain in the right lower portion of the abdomen, steadily becoming worse, and later the patient became nauseated and vom-

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[1] Mulholland, J. H.: Learning to Be a Surgeon, Ann. Surg. 148:277-305 (Sept.) 1958.

gesteigert. Die Anwendung der endotrachealen Anästhesie hat manche der mit der Lokalanästhesie und mit der Inhalationsnarkose verbundenen Gefahren und Unbequemlichkeiten beseitigt. Bei richtiger Indikation und fachmännischer technischer Ausführung bietet heute die Resektion der Rachenmandelwucherungen grössere Vorteile als früher.

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These two cases are presented not because of diagnostic errors involved but because of the difficulty of distinguishing between a benign and malignant lesion at the operating table. While many may differ concerning the value of a frozen section, in this particular type of case, its use seems to us almost mandatory in order to make a decision as to whether to do a limited or radical operation.

Carcinoma of the Sigmoid Colon Misdiagnosed as Carcinoma of the Ovary.—CASE 1.—A 36-year-old white woman was seen in April 1953 because of incontinence of urine, severe dyspareunia, nervousness and loss of weight. There was no history of change in bowel habit and no blood in the stool. Abdominal examination revealed no abnormality, but pelvic examination disclosed a mass attached to the cervix on the left side. This mass was about 8 by 8 by 8 cm., quite tender and freely movable. The patient had undergone previous pelvic surgical treatment consisting of a supravaginal hysterectomy and a left salpingo-oophorectomy. Despite the fact that the left ovary had been removed, it was the impression that some of the ovarian tissue had been left in place and that the mass palpated on pelvic examination represented cystic enlargement of the remnants of the ovary. With this as the preoperative diagnosis, the patient was subjected to operation. The mass, instead of being ovarian tissue, was a large umbilicated carcinoma of the midsigmoid that had become attached to the stump of the cervix. It was possible to free the lesion from the cervix without difficulty, and, since there was no evidence of malignant tissue in the cervix, an anterior resection of the sigmoid colon was done. The patient has done nicely for five years and on recent examination showed no evidence of recurrence.

CASE 2.—A 48-year-old white woman was admitted to the hospital on Feb. 26, 1953, because of pain in the upper part of the abdomen. Abdominal examination revealed essentially normal conditions, but on pelvic examination a mass was palpated in the left adnexal region, and a diagnosis of cystic ovary and retroversion of the uterus was made. At the time of operation, exploration revealed cholelithiasis and a large obstructing carcinoma of the midsigmoid with attachment to the left ovary. Anterior resection of the sigmoid colon was done, with a left salpingo-oophorectomy. There were no complications. The patient has done well since the operation for more than four years. She returned recently for a cholecystectomy, at which time exploration of the entire abdominal cavity revealed no evidence of metastases.

CASE 3.—A 46-year-old white woman had previously undergone a total hysterectomy and a bilateral salpingo-oophorectomy for carcinoma of the ovary. Approximately three years later she began to pass blood by rectum, and a mass was palpated by digital examination. For some months, however, because of the obvious possibility that this was recurrence of the ovarian malignant lesion, no treatment was advised. In February 1958, however, the patient was referred for further examination, and through the proctoscope a biopsy was obtained at about 11 cm., which proved to be adenocarcinoma. There was still some question as to whether this was recurrence of the ovarian tumor, but it was our impression that conditions justified an exploratory laparotomy,

ited. There was no history of intestinal or urinary disturbance. At the time of admission there was a palpable mass in the right lower quadrant of the abdomen. The temperature was elevated to 101.4 F., and leukocytosis was present. Immediate operation was advised because of the acuteness of the symptoms. The preoperative diagnosis was acute appendicitis with localized abscess. At operation a large mass was observed in the ascending colon and cecum, with a small perforation and surrounding peritonitis. A right colectomy with an ileotransverse colostomy was done. After the operation, the pathologist reported that the tissue removed showed adenocarcinoma of the cecum, with extension along the ascending colon and metastases to the regional lymph nodes. This patient did nicely after the operation except for a superficial wound infection, which cleared up without difficulty. After some months he had a right ureteral calculus, which passed after cystoscopy, but about one year later he began to have signs of recurrence. He died of extensive intra-abdominal metastases.

CASE 2.—An 82-year-old white woman was admitted to the hospital with a history of acute pain in the right lower abdominal quadrant, of twenty-four hours' duration. The past history revealed that she had been treated for amoebic dysentery ten years prior to the operation, with apparent cure, and that about four months prior to admission she had had a barium enema because of mucous diarrhea, reported as giving entirely negative results.

On admission the temperature was 99.1 F.; leukocytosis was present, and there was marked tenderness, with rigidity in the right lower quadrant of the abdomen. Immediate operation was advised, but the patient wished to wait overnight, so it was delayed until the following morning. As soon as the patient was anesthetized and the abdomen relaxed a definite mass could be palpated in the right lower abdominal quadrant, and an appendiceal abscess was suspected. The operation was continued, and after the peritoneum had been opened a large carcinoma of the cecum, with surrounding infection but no true perforation, was observed. Despite the fact that no bowel preparation had been carried out, a right colectomy was done, with an ileotransverse colostomy. The patient made an uneventful recovery and is living and well six years after the operation.

These 2 cases have proved interesting for several reasons. In both instances there had been practically no systemic symptoms suggestive of malignant disease of the bowel. Both patients had pain and had vomited, but in neither case was there blood in the stool, and our preoperative thinking was entirely devoted to the idea that both of these patients had acute appendicitis.

Acute Diverticulitis or Cecitis, Misdiagnosed as Appendicitis.—Since 1952, in our service, there have been 10 cases of acute cecitis or diverticulitis of the cecum. In our experience, and in all other reported cases, such patients have been operated upon with a preoperative diagnosis of acute appendicitis. It is not because of the error in diagnosis that we bring these cases to attention, but because it is often extremely difficult, at the time of operation, to distinguish between an inflammatory and a malignant lesion in this location. Two cases of this type are here reported.

CASE 1.—A 35-year-old white woman, four weeks post partum, was admitted to the hospital in 1954, with a history of epigastric pain, nausea and vomiting of two days' duration. She had had one similar attack about two weeks before admission. When she was first seen, the temperature was 100 F., the leukocyte count was 17,000 per cubic millimeter of blood, with 83 per cent polymorphonuclears, and the right lower abdominal quadrant was spastic. Pelvic examination gave entirely negative results. Immediate operation was advised and performed, and at operation a mass approximately 4 by 4 cm. was observed in the lower part of the ascending colon. This mass was covered with an inflammatory exudate, and it was impossible to rule out malignancy by gross examination. The entire mass, including the bowel wall, was excised, and the opening in the ascending colon was closed. An immediate frozen section was done and disclosed no evidence of malignancy. With the aid of antibiotics, the postoperative course was entirely uneventful. Subsequent roentgenograms showed no additional diverticula in the ascending colon, though some irritability was noted in this portion of the intestine.

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CASE 2.—A 48-year-old white woman was admitted to the hospital on Feb. 26, 1953, because of pain in the upper part of the abdomen. Abdominal examination revealed essentially normal conditions, but on pelvic examination a mass was palpated in the left adnexal region, and a diagnosis of cystic ovary and retroversion of the uterus was made. At the time of operation, exploration revealed cholelithiasis and a large obstructing carcinoma of the midsigmoid with attachment to the left ovary. Anterior resection of the sigmoid colon was done, with a left salpingo-oophorectomy. There were no complications. The patient has done well since the operation for more than four years. She returned recently for a cholecystectomy, at which time exploration of the entire abdominal cavity revealed no evidence of metastases.

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which was done. There was absolutely no evidence of intra-abdominal carcinoma, though the mass could be easily palpated in the rectum. A combined abdominoperineal resection was performed. The patient did nicely after the operation and was discharged two weeks later. Up to the time of writing there has been no evidence of recurrence of the sigmoid lesion.

These 3 cases show the importance of suspecting an intestinal lesion when a mass can be palpated in the left adnexal region and also indicate that quite often there are no intestinal symptoms, despite the presence of an almost completely obstructing carcinoma in the sigmoid colon.

Granulomatous Lesions of the Colon Misdiagnosed as Carcinoma.—CASE 1.—A 42-year-old Negro was referred for operation, with a diagnosis of carcinoma of the transverse colon at the splenic flexure. A previous barium enema had shown what appeared to be a constricting lesion at the splenic flexure. The man had been under treatment because of epigastric pain for one month. There had been no nausea, no change in the bowel habits, no vomiting and no blood in the stools. There had been some loss of weight. Abdominal examination showed a large hard mass just to the left of the midline in the epigastrium. In addition to the barium enema a gastrointestinal series had been done, and this was reported giving normal results. At operation, what appeared to be a huge carcinoma of the transverse colon and splenic flexure was observed, with extension to the peritoneum of the anterior abdominal wall. A portion of this wall was removed, together with the distal portion of the transverse colon and descending colon. An end-to-end anastomosis between the sigmoid colon and the transverse colon was done. The patient did exceptionally well after the operation, and, much to our surprise, the pathologist reported a granulomatous lesion with no evidence of malignancy or of extension into the mucosa of the bowel. The exact cause in this particular case has never been determined.

CASE 2.—A 28-year-old white woman, known to be alcoholic, was admitted to the hospital with a mass in the abdomen and no other symptoms. The mass was not tender and was freely movable. A barium enema was done, and a constricting lesion of the distal transverse colon was reported. The roentgenologist said that he could not differentiate between a localized inflammatory lesion and a malignant one, though it was his impression that this was definitely granulomatous. The patient was operated upon, and a large lesion attached to the midtransverse colon was observed and was removed, together with a portion of the transverse colon. Subsequent pathologic examination showed that this was a hematoma and that there was no involvement of the mucosa. The patient did well after the operation, but a few months later was so severely beaten by her husband that she died. It is our impression that she had received a blow during an alcoholic stupor prior to admission and that this caused the hematoma.

These 2 cases are representative of the type in which an immediate frozen section could have been used to advantage and probably would have caused us to change our decision to do a radical operation. The risk to the patient would have definitely been decreased.

Lesions of the Colon Undiagnosed or Misdiagnosed by Roentgen Ray.—CASE 1.—A 50-year-old white woman was examined, at the request of her attending physician, for possible hemorrhoidectomy. She had had constant rectal bleeding, occurring with each bowel movement and sometimes between stools, for about one year. The blood was dark and contained mucus. No roentgen or proctoscopic studies had been made. The patient was obese and diabetic. On examination, the pelvis was normal. Rectal examination showed large internal hemorrhoids, which bled easily. A proctoscopic examination was done and revealed no abnormality in the lower 18 cm., except for bloody mucus in the bowel. The patient was advised to come into the hospital for further studies, including a barium enema, but on that day she began to have acute pain in the right lower quadrant of the abdomen, with nausea and vomiting. She also had fever and leukocytosis, and abdominal examination revealed tenderness and spasticity in the right lower quadrant. Because of these observations an operation for appendicitis was considered, but after several hours in the hospital most of the pain had disappeared and the patient was quite comfortable. After several days, it was decided to go ahead with her studies to determine the cause of the rectal bleeding, which was still present. A barium enema was first ordered and gave entirely negative results. Because of continued bleeding, a repeat barium enema with air contrast was requested, and this also gave negative results. After medical consultation, it was decided that a laparotomy was indicated. This was done, with a preoperative diagnosis of carcinoma of the cecum. To our surprise and despite the two normal roentgenograms, an obstructive lesion was present in the sigmoid colon. This was removed by anterior resection of the sigmoid colon. The patient's convalescence and the results of further studies have been normal.

CASE 2.—A 57-year-old white woman had been under observation because of abdominal pain, cramps and bleeding for approximately six months. She had undergone numerous proctoscopic examinations, and on several occasions small polypi had been observed in the rectum and sigmoid, each of which had been removed for microscopic examination and its base desiccated. The biopsy specimen of each failed to reveal malignancy. Numerous roentgen examinations with barium enemas had also been done, all of which showed diverticulosis, and it was the impression that the bleeding came from a diverticulum. After further studies and consultations, an exploratory laparotomy was done. Multiple colotomies were performed and the entire large bowel, except for the sigmoid colon, was examined through the proctoscope. It was decided to resect the sigmoid colon as the most likely point of bleeding from diverticulosis. In addition to the diverticula, which were present, there was a large sessile nonmalignant polyp 2 by 2 by 1 cm., from which, undoubtedly, the bleeding came. Since that time the patient has had no further difficulty.

CASE 3.—A 55-year-old Negro was admitted to the hospital with inability to retain food. He had previously had apoplexy, with right hemiplegia. After examination a preliminary diagnosis of carcinoma of the stomach was made, but this was not borne out by a gastrointestinal series, and a barium enema was also reported as revealing no abnormality. Abdominal examination disclosed a definite mass in the left upper quadrant. After medical consultation it was decided to perform an exploratory operation. On exploration, an extensive obstructing carcinoma of the left transverse colon was observed, with many metastatic lymph nodes and extension to the jejunum near the ligament of Treitz. The involved area, the glands and a small segment of the jejunum were removed. An end-to-end anastomosis was done. The patient did nicely and up to the time of writing, four months after the operation, has been completely relieved of his symptoms.

CASE 4.—A 72-year-old white woman had been treated by her family physician for some months for loose stools containing no blood. She began to have pain in the right upper abdominal quadrant and also became anemic. She was admitted to the hospital for studies, and a barium enema showed a constricting lesion of the transverse colon at the hepatic flexure. She was prepared for operation at which a large mass was palpated in the hepatic flexure. A right colectomy with an ileotransverse colostomy was done. The patient did well, and pathologic examination revealed no evidence of malignancy. There was one large polyp of the transverse colon that almost obstructed the lumen of the bowel, and also a smaller polyp of the cecum. The patient's postoperative condition has remained good.

CASE 5.—A 73-year-old white man was admitted to the hospital in April 1958, with a rather vague history of loss of weight and "feeling poorly" for about twelve months. Approximately three weeks before admission he began to have pain in the lower part of the abdomen, particularly on the right, and immediately prior to admission he began to vomit rather profusely. Laboratory tests gave essentially normal results except for an elevated blood urea nitrogen level. The clinical impression in this case was that of carcinoma of the cecum, but when a barium enema was done the report stated that there was incomplete filling of the cecum but nothing suggestive of an intrinsic lesion. In the roentgenologist's opinion an inflammatory process about the cecum could not be excluded. One week after admission the patient had improved sufficiently to justify operation, and after preparation of the bowel with Mycifradin and Sulfathaladine the operation was performed. The preoperative diagnosis was carcinoma of the cecum, despite the normal roentgen picture. At operation, an inflamed Meckel's diverticulum was observed and removed. Further exploration revealed a large tumor mass in the hepatic flexure, extending into the mesentery and into the perinephric fat. It was possible to do a right colectomy which was done. There was absolutely no evidence of intra-abdominal carcinoma, though the mass could be easily palpated in the rectum. A combined abdominoperineal resection was performed. The patient did nicely after the operation and was discharged two weeks later. Up to the time of writing there has been no evidence of recurrence of the sigmoid lesion.

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These 2 cases are representative of the type in which an immediate frozen section could have been used to advantage and probably would have caused us to change our decision to do a radical operation. The risk to the patient would have definitely been decreased.

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CASE 2.—A 57-year-old white woman had been under observation because of abdominal pain, cramps and bleeding for approximately six months. She had undergone numerous proctoscopic examinations, and on several occasions small polypi had been observed in the rectum and sigmoid, each of which had been removed for microscopic examination and its base desiccated. The biopsy specimen of each failed to reveal malignancy. Numerous roentgen examinations with barium enemas had also been done, all of which showed diverticulosis, and it was the impression that the bleeding came from a diverticulum. After further studies and consultations, an exploratory laparotomy was done. Multiple colotomies were performed and the entire large bowel, except for the sigmoid colon, was examined through the proctoscope. It was decided to resect the sigmoid colon as the most likely point of bleeding from diverticulosis. In addition to the diverticula, which were present, there was a large sessile nonmalignant polyp 2 by 2 by 1 cm., from which, undoubtedly, the bleeding came. Since that time the patient has had no further difficulty.

CASE 3.—A 55-year-old Negro was admitted to the hospital with inability to retain food. He had previously had apoplexy, with right hemiplegia. After examination a preliminary diagnosis of carcinoma of the stomach was made, but this was not borne out by a gastrointestinal series, and a barium enema was also reported as revealing no abnormality. Abdominal examination disclosed a definite mass in the left upper quadrant. After medical consultation it was decided to perform an exploratory operation. On exploration, an extensive obstructing carcinoma of the left transverse colon was observed, with many metastatic lymph nodes and extension to the jejunum near the ligament of Treitz. The involved area, the glands and a small segment of the jejunum were removed. An end-to-end anastomosis was done. The patient did nicely and up to the time of writing, four months after the operation, has been completely relieved of his symptoms.

CASE 4.—A 72-year-old white woman had been treated by her family physician for some months for loose stools containing no blood. She began to have pain in the right upper abdominal quadrant and also became anemic. She was admitted to the hospital for studies, and a barium enema showed a constricting lesion of the transverse colon at the hepatic flexure. She was prepared for operation at which a large mass was palpated in the hepatic flexure. A right colectomy with an ileotransverse colostomy was done. The patient did well, and pathologic examination revealed no evidence of malignancy. There was one large polyp of the transverse colon that almost obstructed the lumen of the bowel, and also a smaller polyp of the cecum. The patient's postoperative condition has remained good.

CASE 5.—A 73-year-old white man was admitted to the hospital in April 1958, with a rather vague history of loss of weight and "feeling poorly" for about twelve months. Approximately three weeks before admission he began to have pain in the lower part of the abdomen, particularly on the right, and immediately prior to admission he began to vomit rather profusely. Laboratory tests gave essentially normal results except for an elevated blood urea nitrogen level. The clinical impression in this case was that of carcinoma of the cecum, but when a barium enema was done the report stated that there was incomplete filling of the cecum but nothing suggestive of an intrinsic lesion. In the roentgenologist's opinion an inflammatory process about the cecum could not be excluded. One week after admission the patient had improved sufficiently to justify operation, and after preparation of the bowel with Mycifradin and Sulfathaladine the operation was performed. The preoperative diagnosis was carcinoma of the cecum, despite the normal roentgen picture. At operation, an inflamed Meckel's diverticulum was observed and removed. Further exploration revealed a large tumor mass in the hepatic flexure, extending into the mesentery and into the perinephric fat. It was possible to do a right colectomy with excision of the apparently involved tissue, and an ileotransverse colostomy was used to reestablish continuity of the bowel. Since the operation the patient has done well, and, despite the extension of the malignant growth into the surrounding tissue, no recurrence has been noted.

We had the greatest difficulty in making a decision as to the proper mode of therapy in this group of cases. No reflection upon the roentgenologist is intended, but rather these cases are being brought to your attention to prove that it is necessary to depend upon all of our clinical studies and judgment in any given case so that the case may be handled properly.

Rupture of the Bowel Without Antecedent History of Obstructing Lesion.—CASE 1.—A 69-year-old white woman was admitted to the hospital in March 1958, with a history of pain in the left lower abdominal quadrant, with generalized tenderness. She had lost weight and had been nauseated. There was very little distention. It was the impression that she probably had diverticulosis with perforation of the bowel and abscess formation. She was treated expectantly for about twenty-four hours, after which time there was more localized tenderness in the left lower abdominal quadrant and operation was advised. At operation a perforation of the sigmoid colon was observed, with a surrounding abscess. A colostomy was done. The patient did reasonably well and approximately six weeks later was operated upon for a second time. A large tumor, obviously malignant, was present in the sigmoid. It was resected without difficulty, and later the transverse colostomy was closed. The patient did nicely at first but subsequently (six months after the operation) died of metastases.

CASE 2.—A 51-year-old white man who had been under observation for about three months because of "feeling bad" but who had had no nausea, vomiting, change of bowel habits or blood in the stool, suddenly became ill at 1 a.m., with severe abdominal pain accompanied by nausea and vomiting. When seen at about 3 a.m. he was in shock, gray, cold and clammy. His temperature was 101 F., and he showed obvious signs of peritonitis. He was immediately operated upon, the preoperative diagnosis being rupture of the appendix. He proved to have a rupture of the bowel 4 cm. proximal to an annular carcinoma of the midsigmoid. Pelvic peritonitis was present owing to a copious supply of fecal material in the lower part of the abdominal cavity and perforation of the segment of sigmoid colon, together with the carcinoma. A single-barreled colostomy was done proximal to the point of intestinal perforation, and the distal portion of the rectum was closed. The patient, of course, was in very poor condition for about three days and then began to do well. About ten days after the operation an internal fecal fistula apparently developed, and he began to have relatively normal stools by rectum. He was discharged from the hospital in about one month, in good condition and with a functioning colostomy, but passing only mucus by rectum. One year after the original procedure, he was reoperated upon with the idea that the continuity of the bowel could be reestablished. Unfortunately, there was a small island of neoplastic tissue in the fecal fistula, so it was decided to do a combined abdominal-peritoneal resection. Despite what we considered adequate preoperative preparation, severe paralytic ileus developed, apparently with some peritonitis, and the patient died ten days after the second operation. No further evidence of malignancy was observed at postmortem examination.

These 2 cases demonstrate the fact that malignant tumors of the large bowel complicated by perforation or rupture of the viscus are seldom curable, because of metastases. They also represent the technical difficulties encountered at the time of primary operation and further emphasize the fact that acutely obstructive lesions do not necessarily cause antecedent symptoms.

SUMMARY

The 16 cases here briefly reported represent the most difficult problems in the diagnosis and management of colonic lesions we have encountered during the past six years. These are selected from a total of approximately 75 cases. In our opinion these résumés can be valuable to all abdominal surgeons in avoidance of some of the pitfalls of colonic surgery.

The fact is emphasized that in the majority of these cases the operation was per-

formed as an "acute emergency," and adequate preparation for a colonic operation was impossible. In such cases the only antibiotic administered was achromycin, and this was administered intravenously at the time of operation (though after the operation appropriate antibiotics and other medicaments were used). Although preoperative preparation with antibiotics and sulfa drugs, with proper cleansing of the bowel, is desirable, it is not essential, and no patient should be denied definitive surgical treatment in the absence of opportunity for adequate preparation.

It is also our opinion that any good roentgenologist will be the first to admit that roentgen diagnostic studies of the colon are not infallible, and this was certainly borne out in the cases reported here. Of course, it is also certain that roentgenographic study is indispensable to an understanding of the alimentary canal, but in practice it is the judgment of the surgeon, who has combined various types of diagnostic study, that should control the diagnosis and treatment in any given case.

A frozen section taken at operation in the presence of questionable lesions of the large bowel should be requested in any case in which it becomes necessary to make a definite differential diagnosis between a benign and a malignant lesion. Although diagnosis by this means is not entirely free from error, no surgeon should neglect to employ it in difficult problems, so that a proper operation can be performed.

All good surgeons realize that some mistakes are inevitable. By recognizing these errors, however, each surgeon will profit by them and be prepared to prevent any repetition.

ZUSAMMENFASSUNG

Es wird kurz über 16 Fälle berichtet, die die schwierigsten diagnostischen und therapeutischen Probleme bei Erkrankungen des Dickdarms umfassen, denen die Verfasser im Laufe der letzten sechs Jahre begegnet sind. Die Verfasser haben diese Gruppe aus einer Gesamtzahl von etwa 75 Fällen ausgewählt und sind der Meinung, dass ihre Zusammenfassung allen Bauchchirurgen zur Vermeidung mancher Fallstricke in der Dickdarmchirurgie dienlich sein kann.

Die Verfasser heben die Tatsache hervor, dass die Mehrzahl ihrer Patienten als "akute Notfälle" operiert wurde, was eine angemessene Vorbereitung zur Dickdarmoperation unmöglich machte. Das einzige in solchen Fällen angewandte Antibiotikum war das Achromycin, das zur Zeit des chirurgischen Eingriffs intravenös verabreicht wurde. Nach der Operation wurden allerdings geeignete Antibiotika und andere Medikamente verabfolgt. Vorbereitung zur Operation mit Antibiotika und Sulfonamiden und mit angemessener Darmreinigung ist zwar wünschenswert, aber nicht von wesentlicher Bedeutung, und keinem Patienten sollte ein entschiedener chirurgischer Eingriff wegen Mangels an genügender Vorbereitung vorenthalten werden.

Die Verfasser glauben, dass ein guter Röntgenologe der erste sein dürfte, der zugeben wird, dass die diagnostischen Ergebnisse von Röntgenuntersuchungen des Dickdarms nicht unfehlbar sind, und diese Tatsache kam in den hier berichteten Fällen klar zutage. Andererseits besteht natürlich kein Zweifel, dass zum Verständnis der Beschaffenheit des Darmkanals die Röntgenuntersuchung unerlässlich ist. In der Praxis sollte jedoch die Entscheidung der Diagnose und des therapeutischen Vorgehens dem Urteil des Chirurgen, dem die Ergebnisse verschiedener diagnostischer Untersuchungen zur Verfügung stehen, überlassen bleiben.

In allen Fällen, wo es auf eine endgültige Differentialdiagnose zwischen einer gutartigen und einer bösartigen Erkran-

kung ankommt, sollte auf einer Gefrierschnittsuntersuchung des während der Operation aus dem fraglichen Krankheitsherd entnommenen Präparats bestanden werden. Obwohl auch diese Form der Untersuchung nicht frei von Irrtümern ist, sollte der Chirurg in schwierigen Fällen auf ihre Anwendung nicht verzichten, um zur Ausführung eines angemessenen operativen Eingriffes zu gelangen.

Jeder gute Chirurg weiss, dass Fehler nicht immer vermeidbar sind. Er wird jedoch aus ihrer Erkennung Nutzen ziehen und die Wiederholung solcher Irrtümer vermeiden.

RÉSUMÉ

Les 16 cas décrits ici représentent les problèmes les plus difficiles du diagnostic et du traitement des lésions du colon rencontrés par les auteurs au cours des six dernières années. Ils on été sélectionnés sur un ensemble d'environ 75 cas. Les auteurs estiment qu'ils peuvent être utiles à tous les spécialistes de chirurgie abdominale en vue d'éviter les pièges de la chirurgie du colon.

Les auteurs signalent qu'il s'agissait dans la majorité des cas d'opérations d'urgence rendant impossible une préparation suffisante du malade. L'acromycine, par voie intraveineuse au moment de l'opération, a été le seul antibiotique administré; d'autres antibiotiques et médicaments ont été donnés après l'opération. Bien qu'une préparation pré-opératoire aux antibiotique et aux sulfamides, en même temps qu'une bonne préparation de l'intestin, soient souhaitables, ils ne sont pas indispensables et aucun malade ne devrait être privé des bienfaits d'une opération radicale en l'absence de la possibilité d'une préparation suffisante.

Les auteurs pensent aussi que tout bon radiologue sera le premier à reconnaître que les examens de diagnostic radiologique ne sont pas infaillibles, et c'est assurément ce que démontrent les cas ici présentés. Il est évident que les examents radiologiques sont indispensables pour éclairer le système digestif mais, dans la pratique, c'est du jugement du chirurgien, basé sur différents types d'examens diagnostiques, que devraient dépendre le diagnostic et le traitement de chaque cas donné.

Une coupe à la congélation devrait être exigée pour tous les cas de lésions douteuses du gros intestin nécessitant un diagnostic différentiel entre une lésion bénigne et une lésion maligne. Malgré que cette méthode de diagnostic ne soit pas, elle non plus, absolument infaillible, aucun chirurgien ne devrait la négliger dans les cas difficiles, afin de pouvoir choisir la méthode opératoire la mieux indiquée.

Tout bon chirurgien est conscient de l'impossibilité d'éviter certaines erreurs. Et c'est seulement en reconnaissant ces erreurs qu'il pourra être préparé à éviter leur répétition.

RIASSUNTO

I 16 casi brevemente riferiti rappresentano il più difficile problema diagnostico e terapeutico incontrato dall'autore negli ultimi 6 anni nel campo delle affezioni del colon. Essi sono stati raccolti su un totale di circa 75 malati e riassumono ciò che è opportuno conoscere se si vogliano evitare gli errori nella chirurgia colica.

Gli autori sottolineano il fatto che nella maggioranza dei casi i malati furono sottopost a trattamento d'urgenza, senza che fosse possibile compiere una preparazione adeguata. L'unico antibiotico somministrato fu l'acromicina endovena al momento dell'intervento; dopo l'operazione, invece, si somministrarono gli antibiotici di scelta e gli altri medicamenti necessari. Benchè sia consigliabile preparare i malati con antibiotici e sulfamdici, per sterilizzare il colon, ciò non è indispensabile e

non deve impedire l'intervento nei malati in cui tale preparazione non sia stata effettuata.

E' altresì opinione degli autori che ogni buon radiologo dovrebbe ammettere che le indagini radiologiche del colon non sono infallibili; nei casi riferiti ciò appare chiaro. E' anche certo, d'altra parte, che lo studio radiologico è indispensabile per la comprensione delle lesioni del canale alimentare, ma in pratica il controllo della diagnosi e la decisione sul trattamento rimangono affidate al chirurgo.

In presenza di casi dubbi, al momento dell'intervento, si deve ricorrere all'allestimento di preparati al congelatore che consentiranno di differenziare le lesioni benigne da quelle maligne. Anche questo mezzo non è esente da errori, ma nessun chirurgo deve trascurarlo nei casi difficili per poter poi eseguire l'operazione più adatta.

Ogni chirurgo sa che gli errori talvolta non sono evitabili; ma il riconoscimento di essi potrà giovare ad evitarne il ripetersi.

RESUMEN

Los 16 casos brevemente estudiados en este trabajo representan los problemas más difíciles de diagnóstico y tratamiento en afecciones del colon observadas por los autores en los últimos 6 años. Estos casos han sido escojidos de entre un grupo de 75. En nuestra opinión estos estudios pueden ser útiles para todos los cirujanos abdominales con el fin de poder evitar algunos de los herrores que a veces ocurren en la cirujía del colon.

Debiera comenzarse por decir que en la mayor parte de los casos la cirugía del colon hay que hacerla con urgencia y entonces no es posible la preparación. En tales casos el único antibiótico aplicado ha sido la acromicina, por vía intravenosa (Sin embargo después de de la operación se han usado los antibióticos apropiados).

La preparación preoperatoria con antibióticos y sulfamidad con la oportuna limpieza del intestino son de desear, pero no esenciales y a ningún enfermo debe privársele de los beneficios de una operación ulceraria si no hubo tiempo de prepararlo.

También es nuestra opinión el que todo buen radiólogo será el primero en admitir que la radiología del cólon no es infalible lo que se ha visto bien claro en algunos de los casos aquí estudiados. Efectivamente es también cierto que el estudio radiológico es imprescindible en la exploración del tracto intestinale pero que en la práctica es el criterio del cirujano, que ha sintetizado todos los datos de la exploración el que puede dar el diagnóstico y el tratamiento de la enfermedad.

Cuando en el acto operatorio se plantee la cuestión de lesión benigna o maligna para de ello decidir la clase de tratamiento, debe recurrisse a la biopsia rápida por congelación. Aunque este diagnóstico no está librede error el cirujano no puede negar su valor para tomar la decisión más adecuada.

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Gli autori sottolineano il fatto che nella maggioranza dei casi i malati furono sottopost a trattamento d'urgenza, senza che fosse possibile compiere una preparazione adeguata. L'unico antibiotico somministrato fu l'acromicina endovena al momento dell'intervento; dopo l'operazione, invece, si somministrarono gli antibiotici di scelta e gli altri medicamenti necessari. Benchè sia consigliabile preparare i malati con antibiotici e sulfamdici, per sterilizzare il colon, ciò non è indispensabile e

non deve impedire l'intervento nei malati in cui tale preparazione non sia stata effettuata.

E' altresì opinione degli autori che ogni buon radiologo dovrebbe ammettere che le indagini radiologiche del colon non sono infallibili; nei casi riferiti ciò appare chiaro. E' anche certo, d'altra parte, che lo studio radiologico è indispensabile per la comprensione delle lesioni del canale alimentare, ma in pratica il controllo della diagnosi e la decisione sul trattamento rimangono affidate al chirurgo.

In presenza di casi dubbi, al momento dell'intervento, si deve ricorrere all'allestimento di preparati al congelatore che consentiranno di differenziare le lesioni benigne da quelle maligne. Anche questo mezzo non è esente da errori, ma nessun chirurgo deve trascurarlo nei casi difficili per poter poi eseguire l'operazione più adatta.

Ogni chirurgo sa che gli errori talvolta non sono evitabili; ma il riconoscimento di essi potrà giovare ad evitarne il ripetersi.

RESUMEN

Los 16 casos brevemente estudiados en este trabajo representan los problemas más difíciles de diagnóstico y tratamiento en afecciones del colon observadas por los autores en los últimos 6 años. Estos casos han sido escojidos de entre un grupo de 75. En nuestra opinión estos estudios pueden ser útiles para todos los cirujanos abdominales con el fin de poder evitar algunos de los herrores que a veces ocurren en la cirujía del colon.

Debiera comenzarse por decir que en la mayor parte de los casos la cirugía del colon hay que hacerla con urgencia y entonces no es posible la preparación. En tales casos el único antibiótico aplicado ha sido la acromicina, por vía intravenosa (Sin embargo después de de la operación se han usado los antibióticos apropiados).

La preparación preoperatoria con antibióticos y sulfamidad con la oportuna limpieza del intestino son de desear, pero no esenciales y a ningún enfermo debe privársele de los beneficios de una operación ulceraria si no hubo tiempo de prepararlo.

También es nuestra opinión el que todo buen radiólogo será el primero en admitir que la radiología del cólon no es infalible lo que se ha visto bien claro en algunos de los casos aquí estudiados. Efectivamente es también cierto que el estudio radiológico es imprescindible en la exploración del tracto intestinale pero que en la práctica es el criterio del cirujano, que ha sintetizado todos los datos de la exploración el que puede dar el diagnóstico y el tratamiento de la enfermedad.

Cuando en el acto operatorio se plantee la cuestión de lesión benigna o maligna para de ello decidir la clase de tratamiento, debe recurrisse a la biopsia rápida por congelación. Aunque este diagnóstico no está librede error el cirujano no puede negar su valor para tomar la decisión más adecuada.

Todo buen cirujano comprende que algunas equivocaciones pueden ser evitadas. Reconociendo los errores cada cirujano se aprovechará de ellos para estar prevenido y evitar su repetición.

Seccão em Portugues

Calculose Residual das Vias Biliares: Estudo Experimental e Clinico

(Residual Calculosis of the Bile Ducts; An Experimental and Clinical Study)

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A review of the literature on residual lithiasis of the bile ducts is presented, with emphasis on the value of operative examination of the choledochus in a patient with biliary lithiasis. Conservative treatment, with conditions justifying its use, is analyzed. The clinical portion of the study is based on 30 cases in which cure was accomplished by the Pribram method, with simultaneous administration of antispasmodics; the experimental part, on the results of operation on 14 dogs and their condition at the time of writing.

Os cálculos residuais deixados no hépato-colédoco após as intervenções sobre as vias biliares para o tratamento de litíase constituem problema sério, que preocupa sobremodo o cirurgião, não só pela possibilidade de uma reoperação sempre de maior risco que a primeira, como pela circunstância do doente não se ter curado com a primeira intervenção.

Frequência.—Hicken e outros,[1] examinando 550 pacientes de 11 hospitais, da área de Salt Lake City, que apresentavam drenagem das vias biliares, encontraram 110 casos de cálculos residuais nos ductos biliares. Tais casos estavam distribuidos na proporção que se segue:

Operação primária		Calculose residual	
Colecistostomia (sômente)	25	5	20%
Colecistostomia e coledocotomia	35	4	11%
Colecistectomia (drenagem cistica)	15	2	13%
Colecistectomia e coledocotomia	400	83	20%
Coledocotomia (sômente)	75	16	21%
	550	110	20%

Em todos os pacientes o diagnóstico de calculose residual foi estabelecido pela colangiografia posoperatória, a qual foi praticada do 7° ao 10° dias posoperatório com Diodrast à 35%. Concluem êstes AA. que a colangiografia posoperatória é o melhor recurso para um acurado diagnóstico de calculose residual. Salientam que na sua série 45% dos pacientes não

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apresentavam sinais clínicos que os conduzissem ao diagnóstico exato de calculose residual.

Farris[2] de Los Angeles em idêntico estudo e empregando também a colangiografia posoperatória teve 22% de calculose residual seguindo coledolitotomias primárias.

Montenegro[3] em 901 operações das vias biliares teve 11 reoperações por cálculo residual.

A frequência da calculose residual diminue com os meios propedêuticos que favorecem o diagnóstico da calculose do colédoco.

A colangiografia operatória foi um avanço decisivo no diagnóstico da litíase do colédoco e na liberação do mesmo de cálculos aí localizados.

Mirizzi[4] (antes da colangiografia) acusa a frequência de 8% de calculose do colédoco e após o emprego deste meio a porcentagem subiu a 20%.

Best[5] mostrou em 1944, que 7% dos pacientes com colelitíase tinham cálculos nos ductos hepáticos.

Crump[6] em 1.000 necrópsias consecutivas relata a incidência de 32% de colelitíase e no número total de calculose da vesícula 24% apresentava cálculos no colédoco ou nos ductos hepáticos.

Fatores Que Influem na Ocorrência da Litíase Residual.—Apezar do emprêgo dos meios propedêuticos disponíveis, a litíase residual é vista com relativa freqüência, porque determinados fatores influem em sua ocorrência.

Para Best e outros,[7] os fatores que influem com maior freqüência para que cálculos permaneçam, após as operações primárias, no colédoco e nos ductos hepáticos são: más condições dos doentes, obesidade e risco pobre, edemas e aderências na área operatória ou calculos encravados; iluminação inadequada; deficiência de exposição ou anestesia; ductos ou sistema vascular anómalos e a habilidade do cirurgião, que certamente contribui.

Mirizzi[4] afirma que a litíase residual é a manifestação mais eloqüente da insuficiência dos recursos exploratórios utilizados para localizar os corpos extranhos das vias biliares.

Como recursos exploratórios usados pelos vários AA. temos:

Inspeção, palpação manual ou instrumental, manometria e radiomanometria por Mallet Guy,[8] a colangiografia operatória de Mirizzi, colelitofonia e coledocoscopia.

Destes métados a colangiografia operatória é o mais usado e fornece dados positivos na localização de pequenos cálculos que poderiam permanecer inadvertidamente nas vias biliares.

Para nós ela encontra indicações nas emergências apontadas por Glenn[9] e muitos outros AA:

1. Cálculo palpável no ducto comum;
2. História de icterícia precedida ou não de dôr ou elevação intermitente de temperatura;
3. Adelgaçamento da parede do colédoco com ou sem dilatação;
4. Vesícula contraida contendo cálculos;
5. Canal cístico dilatado;
6. Alargamento da cabeça do pâncreas e
7. Paciente com mais de 60 anos e história biliar prolongada.

Além da colangiografia operatória deve ser praticada a posoperatória: não só nos casos suspeitos de cálculos residuais como também para se patentear o livre trânsito do colédoco e ductos biliares.

Oderberg[10] em 1955 pratica sistemàticamente colangiografia posoperatória. Nos casos suspeitos de obstrução qualquer tipo de drenagem é estabelecida e no dia seguinte é feita a colangiografia. Si o colédoco se mostrar livre, retira então o dreno.

Em 354 operações sobre o colédoco refere 37 casos de cálculos residuais tratados pelo éter.

Para prevenir ou diminuir a má interpretação das imagens de bolhas de ar nos ductos intrahepáticos ou extrahepáticos liga ao dreno uma solução salina gotejando cêrca de 12 horas antes da colangiografia. Pretende o A. desto modo limpar as vias biliares evitando as causas de êrro.

Smanio[11] julga de valor a divulgação dos aparelhos de Kirby, para colelitofonia e de McIver para coledocoscopia, pois reputa estes dois meios valiosos, principalmente este último.

Hicken e outros,[1] analisando 110 casos de cálculose residual, ressaltam a importância da colangiografia posoperatória no diagnóstico desta ocorrência, dando uma causa de êrro inferior a 0,5%.

Êstes AA. atribuem a incidência tão grande de litíase residual (110 em 550 operados das vias biliares e drenados por 26 cirurgiões diferentes), a condições de ordem anatômica ou técnica; assim:

1) Anomalias frequêntes dos ductos biliares: cêrca de 18 a 20% dos pacientes apresentavam tais anomalias, com as quais muitos dos cirurgiões não estavam familiarizados; 2) hemorragias quer por anomalia vascular ou por descontrole do cirurgião; Em 5 casos os cirurgiões sabedores da presença de cálculos no colédoco tiveram que suspender suas operações por hemorragias copiosas, deixando os cálculos "in situ"; 3) o calibre do colédoco também constitue ponto falho na exploração. Estes AA. medindo na mesa operatória e na necrópsia—225 colédocos em indivíduos sem doença do sistema biliar, encontraram em 22% dos casos o colédoco medindo 4,0mm ou menos de diâmetro; em 52% a média foi 5,0 mm e em 26% o colédoco mediu de 7,5 a 10,0 mm. Assim, um colédoco dilatado nem sempre tem cálculos e casos de sua estatística com colédocos estreitos apresentaram cálculos em sua luz.

Além destes fatores outras condições patológicas contribuiram para a calculose residual estudada por estes AA.

4) Cálculos intrahepáticos inaccesíveis aos meios exploratórios, os quais são frequêntes conforme o trabalho de Best[5] e outros AA.

5) Pequenos cálculos, tão pequenos e tão numerosos, verdadeira areia, que são irremovíveis, constituindo sério problema ao cirurgião;

6) Em sua série citam 3 casos de cálculos encravados em divertículos do colédoco e finalmente,

7) Pacientes de risco pobre, colecistite gangrenosa, pancreatite fulminante, ou icterícia intensa e grave, cujos cálculos são deliberadamente deixados para ulterior tratamento.

Para Pribram[12] haveria duas causas que facilitariam a permanência inadvertida de cálculos nas vias biliares. A primeira seria a situação dos cálculos na ampola de Vater, freqüentemente encaixados de maneira profunda e firme nas criptas ou ulcerações, situação essa que os torna inacessíveis mesmo à pesquiza direta pela incisão supraduodenal do colédoco; uma sonda, mesmo calibrosa poderia passar ao lado do cálculo, sem destacá-lo de seu leito. A segunda causa seria o deslocamento que os cálculos podem sofrer durante um acesso de cólica ou vômito, em direção aos canais intrahepáticos, onde permaneceriam durante algum tempo, e descendo para a ampola posteriormente.

Assim, ainda hoje é perfeitamente aceitável a afirmação de Lord Moyniham "não nasceu ainda o cirurgião que se vangloriasse de nunca ter deixado um cálculo residual."

Método de Tratamento.—O tratamento da calculose residual pode ser cirúrgico ou conservador.

Cirúrgico: O cirúrgico está reservado para os casos em que o colédoco não está drenado ou nos casos em que a sonda por qualquer circunstância deslocou-se do colédoco, nos casos com icterícia obstrutiva que demandam urgência na desobstrução e finalmente nos casos em que não se obteve resultados com os tratamentos conservadores, como veremos adiante.

Conservador: Os métodos conservadores dividem-se em: a) aumento, com hidrocoleréticos, do fluxo biliar fisiológico; b) uso de antiespasmódicos e de anestésicos do esfincter de Oddi; e c) uso de drogas que tenham ação de dissolver ou fragmentar os cálculos. Êstes métodos têm sido usados separadamente ou combinados (Best e cols.[7])

Justificativa e Emprego de Métodos Conservadores.—Best e Hicken[13] demonstraram a lavagem da árvore biliar com o aumento de fluxo biliar pela ação do ac. dehidrocólico (Decholin). Com o aumento da quantidade e da pressão do fluxo biliar e o relaxamento esfincteriano os cálculos e detritos biliares podem ser levados do sistema de ductos para o duodeno.

Bengoléa e Velasco Suarez[14] fazem o lavado transcoledociano combinado com a instilação, por meio de sonda, de sulfato de magnésio à 33%.

Sterling,[15] examinando 100 espécimens encontrou a terminação do colédoco no duodeno, relacionada ao ducto pancreático, distribuida em 4 grupos: 1) orifícios completamente separados (42%); 2) canal comum partindo do terço distal da papila (38%); 3) canal comum partindo do terço médio da papila (4%) e 4) canal comum partindo do terço proximal da papila (3%) (Fig. 1).

Fazendo mensurações do orifício de abertura do colédoco em 59 espécimens encontrou os seguintes valores médios: Diâmetro do orifício do colédoco, 0,0012 mm. Diâmetro do orifício canal comum do colédoco e ducto pancreático 0,0010 mm.

Sterling e Goldsmith,[16] fazendo estudos da pressão intracoledociana concluem que a pressão e o volume intracoledociano, estão na razão direta da terminação do canal, e são modificados pelo seu conteúdo.

Dada a relação entre a terminação exigua e a pressão intracoledociana, os AA. que pretendem a eliminação de cálculos através do Oddi aconselham o uso de antiespasmódicos e lubrificantes instilados nas vias biliares.

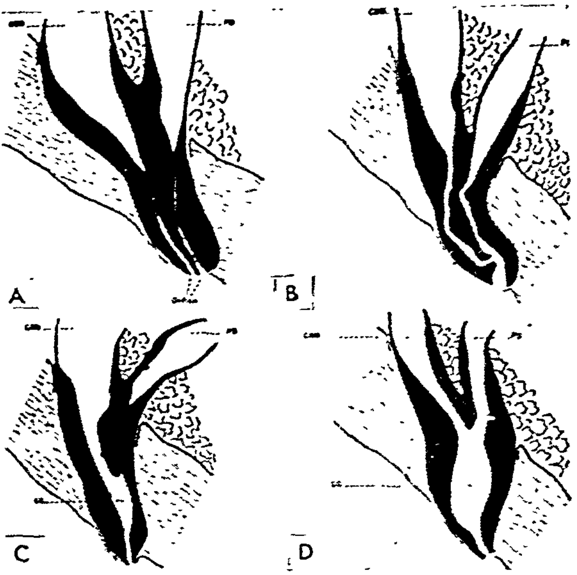

Fig. 1.—*A*, dois orifícios completamente separados, papila medindo 0,8 cm. em *(a)* e orifício, com 1,5 cm. da papila em (*b*) (Sterling). *B*, orifício único no ápice, papila medindo 0,8 cm. em *(c)* e canal comum pancreático e biliar, tomando mais da metade da papila em *(d)* (Sterling).

Walters e Wesson[17] em 1937 foram os primeiros a aconselhar o uso por inalação de nitrito de amilo, antes da instilação do éter.

Delfino e Allende[18] em 1948 usaram instilações pela sonda de Kehr de novocaína à 2%.

Bergh[19] em 1942 fez estudos exaustivos experimentais no homem da ação de 170 drogas sôbre o esfincter de Oddi. Relacionando as respostas do esfincter humano aos vários tipos de estímulos conclue que o nitrito de amilo por via inalatória determina imediatamente baixa da pressão intrabiliar, voltando a resistência do esfincter ao normal após 10 minutos.

Nasser e Mendonça[20] em 1952 para obter relaxamento mais prolongado do esfincter, usaram a trinitrina em solução de 200 gotas para 100 cc. de água.

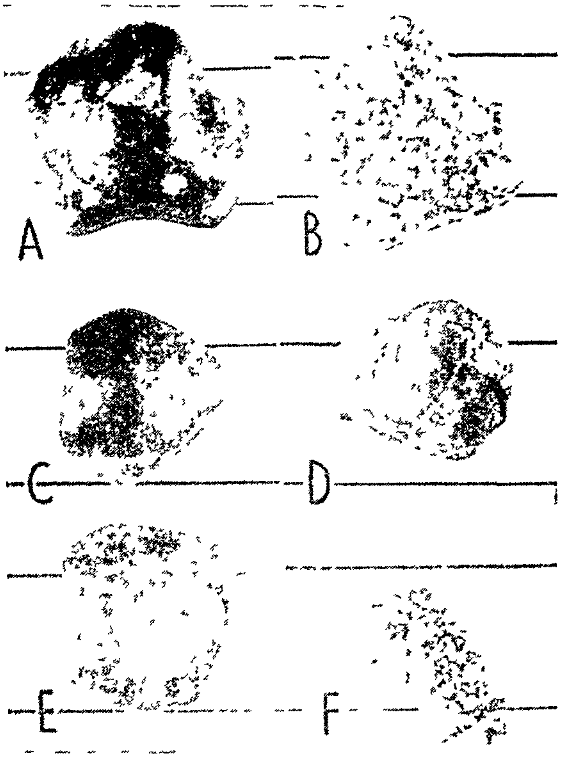

Fig. 2.—*A-B,* cálculo antes e após 30 minutos de imersão no éter. *C-D,* cálculo antes e após 30 minutos de imersão no clorofórmio a temperatura ambiente. *E-F,* cálculo antes e após 15 minutos de imersão em clorofórmio aquecido a 60° (escala 1 cm.) (Best[7]).

Os cálculos biliares são constituidos de colesterol, bilirubina e cálcio; estas substâncias podem se apresentar isoladamente ou combinadas nos cálculos mistos. O colesterol é o componente da maioria dos cálculos biliares.

O uso de substâncias químicas para obter-se a dissolução e fragmentação dêstes cálculos data de 1891 quando Walker[21] instilou éter em fístulas de colecistostomia.

Pribram[12] no Congresso de Viena de 1932 relatou 6 casos de litíase residual do colédoco e em enfermos em estado precário, tratados por instilação de éter com bons resultados. Pribram a principio usou éter puro, posteriormente passou a usa-lo misturado com 1 cc. de álcool (4:1); o álcool tem a propriedade de elevar o ponto de ebulição do éter o qual ferve á temperatura do corpo humano, além de um efeito analgésico.

A expulsão dos cálculos, segundo Pribram, baseia-se no fato de ser o arcabouço dos cálculos biliares mais comuns constituido de colesterol, o qual é altamente soluvel no éter. Dissolvendo-se este arcabouço, quebra-se a estrutura do cálculo fragmentando-se este em pedaços ou em lama que podem passar fàcilmente através da papila.

Pretendem alguns autores, como Walters e Wesson[17] e Michel[22] que o mecanismo de expulsão seja a dilatação forçada do esfincter de Oddi pela pressão do éter em ebulição. Realmente, o éter ao entrar em ebulição multiplica por 222 o seu volume.

Outros agentes foram estudados, tais como a solução G—por Goldman, Jackman e Eastman[23]; a bile de boi, a bile de cão e o taurocolato de sódio por Strickler e col.[24] sem resultados, concluindo estes últimos autores que o éter é de maior eficiência na dissolução dos cálculos "in vitro" do que aquelas substâncias.

Narat e Cipolla[25] em 1945 estudaram o clorofórmio que apresenta para êles vantagens sobre o éter; pelo seu ponto de ebulição (61°) mais elevado que o do éter (35°); pela maior ação em dissolver os cálculos; pela sua ação dissolvendo, também os pigmentos biliares emquanto tais pigmentos são pouco solúveis no éter e finalmente que o clorofórmio aquecido tem ainda maior ação solvente.

Best e col.[7] investigando o poder de dissolver cálculos biliares de 113 substâncias diferentes, concluem que: "o cloroformio e o éter foram efetivos em todos os cálculos contendo colesterol, entretanto o clorofórmio foi ligeiramente superior. Os cálculos mistos respondem melhor ao clorofórmio e, em alguns casos, a adição de ácidos graxos em solução a 1% ao clorofórmio e éter, aumenta a fragmentação e dissolução. O clorofórmio aquecido até próximo do seu ponto de ebulição produz significativa fragmentação dentro de 15 minutos."

Experimentação Animal Sobre a Toxicidade do Éter e do Clorofórmio.—Probstein e Eckert[26] em 1937 instilando de 3 a 6 cc. de éter na vesícula de cães diàriamente durante 14 dias e sacrificando os animais após longo período de sobrevida, obtiveram lesões microscópicas que consistiam em destruição progressiva da camada mucosa da vesícula e tratos biliares e edema das células do parênquima hepático.

Estes AA. também provaram a diminuição do fluxo biliar após as instilações do éter e em 11 cães, 3 faleceram de icterícia. Para recolher a bile diária—seccionavam o colédoco e usavam um sistema de drenagem fechado no qual a bile era recolhida num saco e o colédoco era conetado por meio de um tubo com a vesícula.

O éter instilado em quantidade relativamente alta entrava em contato direto com a mucosa da vesícula e vias biliares neste sistema de drenagem fechado, o que em parte invalida a pesquiza.

Raffl[27] em 1941, também em cães instilou éter na vesícula biliar com cálculos e não obteve lesões da mucosa das vias biliares. Raffl usou o éter na quantidade de 2 a 3 cm. durante uma semana fazendo 1 ou 2 instilações diárias. A vesícula era drenada com duas sondas uma no. 20 e outra no. 6. Após uma semana os cálculos estavam semi dissolvidos e após duas semanas desapareciam.

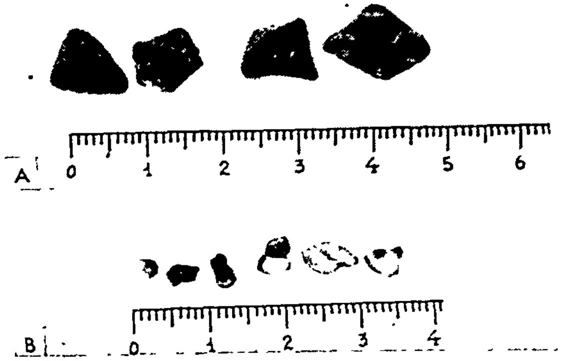

Fig. 3.—Cálculos colocados na vesícula do cão (Prot. 2.). Um dos cálculos fragmentouse ao ser colocado.

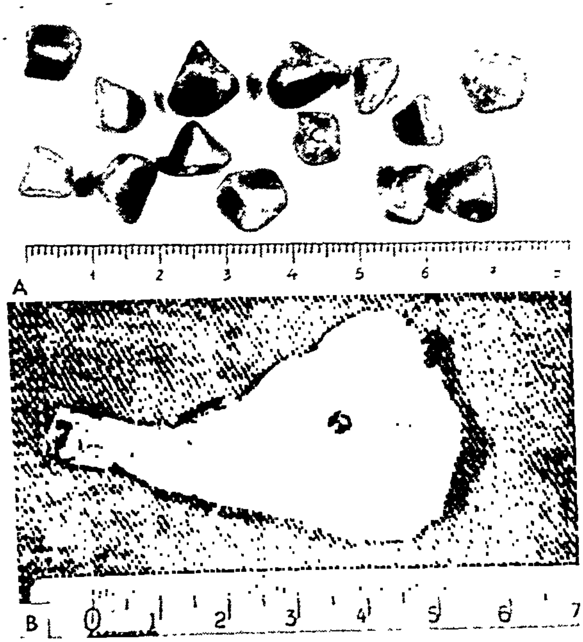

Fig. 4.—*A*, cálculo encontrado no cão prot. 5. *B*, após 54 dias houve acentuada diminuição do tamanho dos cálculos—sem o emprêgo de instilações (Prot. 2).

Cálculos semelhantes colocados em animais testemunhas após um mês estavam quase idênticos.

À autópsia tanto os testemunhas como os animais da experimentação não apresentavam lesão alguma.

Na microscopia, a mucosa mostrava-se intata após um mês de exposição duas vêzes ao dia de 3 cm. de éter e apenas revelou pequena infiltração fibrosa das células.

Narat e Cipolla[25] em 1945 não encontraram lesões no fígado, vesícula e ductos biliares de cães quando instilaram clorofórmio. Concluiram, embora, que o emprego do clorofórmio é potencialmente perigoso restringindo seu emprego ao ato cirúrgico.

Best e outros[7] em 1953, com o propósito de verificar o efeito nocivo do clorofórmio em cães, praticaram a drenagem do colédoco através do esfincter de Oddi por via transduodenal em 16 cães, que foram divididos em 2 grupos; os que não recebiam injeção alguma, e os que o clorofórmio era instilado na quantidade de 2 a 4 cc. no 3° e 4° dia do posoperatório. Os animais eram sacrificados do 5° ao 30° dia de sobrevida.

Do grupo testemunha, 7 animais, nos quais apenas foi colocada a sonda—2 morreram; 29% de mortalidade. No grupo que recebeu as instilações de clorofórmio, 4 faleceram, 44% de mortalidade.

A autópsia revelou perturbações macroscópicas mínimas no fígado e nos tecidos dos ductos dos animais de ambos os grupos.

Microscòpicamente não observaram lesões nas túnicas dos ductos de ambos os grupos. No fígado notaram necrose centrolobular variando de ligeira a grave nos cães dos dois grupos. Estas lesões foram ligeiramente mais severas no grupo dos que receberam as instilações.

Os AA. acentuam que a quantidade de clorofórmio, depositada diretamente no sistema de ductos hepáticos, foi relativamente elevada, o que daria para um homem de 70K. a quantidade de 28 a 30 cc.

Strickler e outros[24] não puderam demonstrar o poder da bile de cão em dissolver "in vitro" cálculos biliares. Na observação de Wangensteen[28] os cálculos biliares desaparecem da vesícula dos cães vivos devido á ação dissolvente da bile ou de qualquer outra ação dissolvente exercida pela própria vesícula.

Experimentação Animal: Nossa experimentação, baseada em 13 cães, teve a finalidade de avaliar o poder agressivo do éter ao fígado e mucosa vesicular banhada na instilação e de verificar como se comportaria a vesícula do cão na presença dos cálculos aí depositados. Usamos cães com o pêso variando entre 6.500 e 19.000 Gm.; todos foram operados sob anestesia venosa pelo Nembutal na dose de 0,10 g. por 3 quilos de pêso.

A operação, consistiu em colecistostomia—com sonda de Pezzer ou sonda comum uretral pouco calibrosa e deposição de cálculos dentro da vesícula. Os demais cuidados foram os habitualmente seguidos no Departamento de Técnica Cirúrgica e Cirurgia Experimental da Faculdade de de Medicina da Universidade de São Paulo.

Dividimos os animais em dois grupos:

Lote I—Consistiu em colecistostomia, deposição dos cálculos na vesícula. Os animais deste lote tiveram sobrevida longa e não sofreram ou sofreram poucas instilações da mistura éter-álcool, usada por Pribram—na proporção de 4:1 respectivamente, para averiguarmos como se comportaria a vesícula com os cálculos biliares (provenientes de doentes operados de colecistite calculosa (Quadro 2)).

Todos os cães deste lote tiveram sobrevida superior a 49 dias indo até 104 dias.

Em 2 cães não fizemos nenhuma instilação de éter-álcool os de números 2 e 7.

Prot. 2—que teve sobrevida de 54 dias e foram encontrados apenas fragmentos de cálculos.

Prot. 3—com 5 instilações. Aos 104 dias de sobrevida não observamos na vesícula nenhum dos três cálculos depositados.

O cão do protocolo 7 com 90 dias de sobrevida não apresentava nenhum cálculo. A vesícula não poude ser identificada pelo maciço de adrências, mas a secção do bloco não mostrou cálculos.

Três outros cães sofreram 1 - 2 e 3 instilações respectivamente, porém nestes animais a sonda havia saido e a mistura foi instilada pela fístula sem certeza de ter ido á vesícula, pois houve sempre nestes casos refluxo do líquido (Prot. 4, 5 e 6).

Prot. 4 — duas instilações pela fístula. Após 49 dias de sobrevida encontramos o mesmo número de cálculos (3) porém

Lote I

Protocolo	*Peso*	*No. de calculos colocados*	*No. de instilacoes*	*Sobrevidas dias*	*No. de calculos necropsia*	*Macroscopia figado e vias biliares*	*Observacoes*
2	6.500	4 2 de 1,0 cm 2 fragmentados em 5	0	54	6 fragmentos	Normal	
3	12.800	3 de 0,50 cm	5	104	0	Colédoco dilatado	Supuração
4	9.200	3 de 0,50 cm	2	49	3 amolecidos	Normal Vesicula atrófica	Saiu a sonda. Instilação pela fístula
6	12.000	4 de 1,00 a 0,50 cm	1	60	1 de 0,20 cm	Normal colédoco dilatado	Saiu a sonda
7	12.000	4 de 0,80 cm	3	99	0	Normal	Saiu a sonda. Instilação pela fístula
8	12.000	4 de 0,50 a 1,00 cm	0	90	0	Normal	Aderências macissas não permitiram a identificação da vesícula
9	10.000	4 de 0,50 a 1,50 cm	3	103	3 2 de 0,60 cm 1 menor	Normal	Aderências aos 38 dias. Presença dos cálculos revelada pelo Rx. As instilações foram posteriores

Quadro 2

Lote II

Protocolo	*Peso*	*No. de calculos*	*No. de instilacao*	*Sobrevida dias*	*No. do calculos necropsia*	*Macroscopia*	*Microscopia*	*Observacao*
1	11.300	6	6	25	4 3 iguais 1 menor	Normal		
A	19.000	6 pequenos 3 mm	5	12	2 iguais	Normal	Ves.: lesões inflamatórias. Figado: lesões inflamatórias	
B	15.000	6 pequenos 3 mm	7	19	4 sendo 2 fragmentos	Normal	Ves.: lesões inflam. Figado: lesões inflam. e degener.**	Supuração ligeira
C	14.800	6 0,50 cm	6	18	2 1 igual e 1 fragmento	Normal	Ves.: lesões inflam. Figado: lesões inflamat. e degener.**	Supuração parede
E	8.000	6 0,30 cm	7	13	6 menores sendo 3 no cístico	Figado normal Fibrose da vesicula	Ves.: lesões inflam. Figado: lesões inflam. e degener.*	
F	9.200	6 0,30 cm	10	25	6 menores sendo 1 igual	Figado normal Colédoco dilatado		

Quadro 1

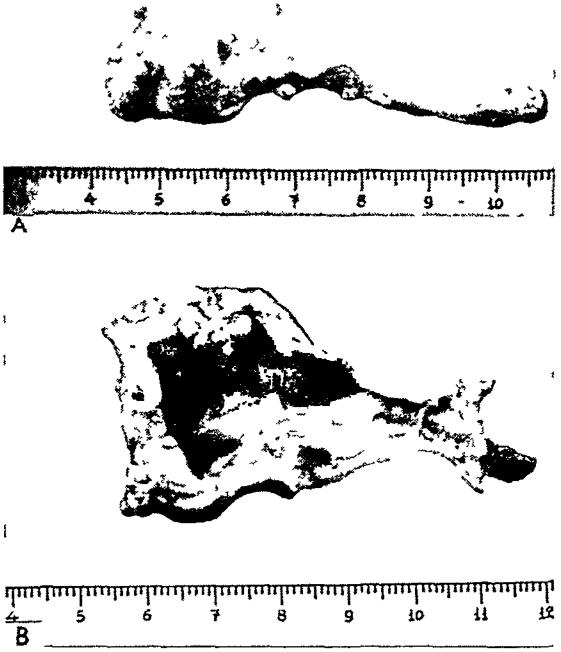

Fig. 5.—*A*, vesícula fechada do cão prot. 3 notase a tumefação determinada pela cabeça da sonda. *B*, (Prot. 3), vesícula aberta. Irritação da mucosa pela sonda. Ausência de cálculos.

amolecidos e se esfacelaram com facilidade.

Prot. 5—Uma instilação pela fístula. Dos 4 cálculos colocados aos 60 dias de sobrevida, apenas encontramos um e bem menor.

No cão de prot. 6 foram colocados 4 cálculos grandes de 8,8 cm. e em 99 dias de sobrevida foram praticadas 3 instilações através da fístula. A necrópsia não revelou cálculos na vesícula.

Nos 2 cães restantes deste grupo (Prot. 3 e 8) praticamos número maior de instilações 3 e 5, a sobrevida foi longa de 103 e 104 dias respectivamente.

No cão prot. 9—foram colocados 4 cálculos grandes. Foram executadas três instilações. A sobrevida foi de 103 dias. Após 38 dias, antes de termos feito as instilações fizemos uma radiografia que revela ainda os cálculos. Na necrópsia notamos a presença de 3 cálculos, menores que os aí depositados, esfacelando-se com facilidade.

Lote II—Neste grupo procuramos fazer maior número de instilações num prazo menor para observarmos a agressividade do éter sobre a vesícula e sobre as estruturas hepáticas; operamos 6 animais dos quais 4 foram submetidos a exame histopatológico da vesícula e do parênquima hepático. Foi nosso escopo, também, verificar o poder do éter-álcool em dissolver os cálculos biliares depositados nas vesículas dos cães (Quadro 1).

Praticamos em todos os animais 5 á 10 instilações de 5 cc. da mistura éter-álcool na proporção de 4:1. Os animais foram sacrificados do 12° ao 25° dia. Em todos observamos na necrópsia a presença de menor número de cálculos e alguns fragmentados.

Um animal (Prot. D) faleceu de peritonite com 48 horas de posoperatório, tendo sido excluido do estudo por ter a morte decorrido por causa extranha a experimentação.

COMENTÁRIOS

Confrontando o resultado dos 2 lotes supomos que os cálculos deixados na vesícula dos cães são dissolvidos ou fragmentados, pelo menos nos animais que tiveram sobrevida acima de 50 dias, pela ação da bile ou qualquer outra ação da própria vesícula. A mistura álcoléter instilada na vesícula facilita ou apressa a dissolução ou fragmentação.

A dissolução obtida em nossa experimentação foi demorada em relação à que obtivemos em muitos casos clínicos em que após 1, 2 ou 3 aplicações de éter, o colédoco se apresentou liberado dos cálculos. Daí acreditarmos que o mecanismo de ação do éter seja não só pelo seu poder em dissolver os cálculos biliares como também, pelo aumento brusco da pressão intracoledociana o qual faria com que os cálculos fossem levados a transpor o Oddi relaxado pelo emprego de antiespasmódi-

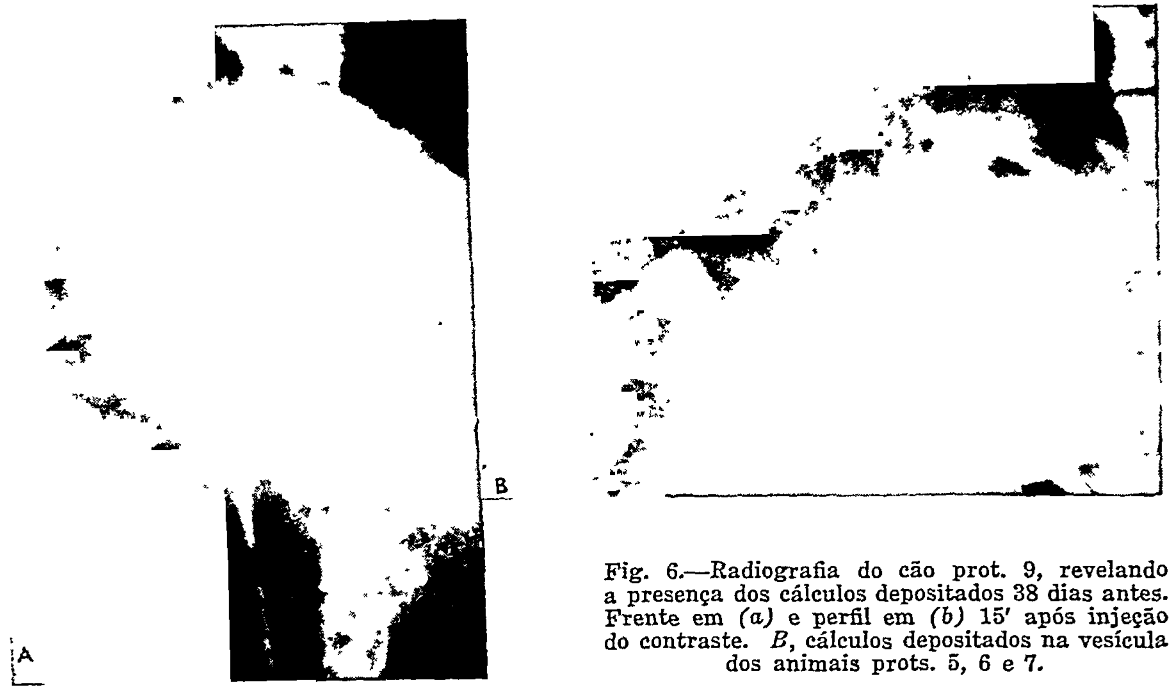

Fig. 6.—Radiografia do cão prot. 9, revelando a presença dos cálculos depositados 38 dias antes. Frente em *(a)* e perfil em *(b)* 15' após injeção do contraste. *B*, cálculos depositados na vesícula dos animais prots. 5, 6 e 7.

cos. Em um dos espécimens da experimentação (Prot. E) encontramos 3 dos cálculos remanescentes encravados no cístico, aptos, portanto, para serem expulsos pelo próximo impacto da pressão do éter em ebulição.

Na clínica, constatamos em colangiografias sucessivas a diminuição do volume dos cálculos até atingirem um volume que lhes permita franquear o esfincter.

Macroscopia.—Quanto à agressividade do éter, pelo aspecto macroscópico do fígado e das vias biliares bem como pelo estado e disposição dos animais operados, não concluimos ter a mistura instilada qualquer efeito. Em alguns animais tivemos fibrose, vesículas contraidas e dilatações do colédoco, não podendo tais lesões serem atribuidas exclusivamente ao éter, uma vez que frequentemente ha associação de outros fatores nocivos, tais como: infecções, aderências, irritações pela presença da sonda etc.

Microscopia.—Os cortes microscópicos, examinados pelo Dr. Roberto Aidar Aun, das vesículas e dos fígados de 4 animais do Lote II não demonstraram nenhuma toxicidade do éter sobre a mucosa da vesícula. Os cortes revelaram apenas infiltração inflamatória e tecido conjuntivo fibroso. Quanto ao fígado—em três lâminas foram observadas lesões degenerativas do tipo tóxico.

Relatório da Microscopia.—Protocolo A: Fígado — Tecido hepático, cujas traves acham-se parcialmente dissociadas por marcante dilatação e congestão dos capilares sanguíneos. Marcante congestão e dilatação das veias centrolobulares e das

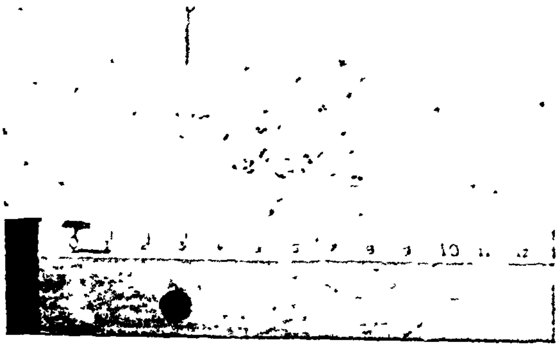

Fig. 7 (Prot. 3).—3 cálculos encontrados após 103 dias de sobrevida.

veias portais, que apresentam além disso infiltração inflamatória por elementos pericelulares.

Vesícula biliar—Infiltração inflamatória discreta do corion da mucosa. Musculatura substituida por tecido conjunctivo fibroso em parte mielinizado com edema intersticial.

Protocolo B: Fígado — Tecido hepático ostentando nítida vacuolização das células parenquimatosas com fenomenos degenerativos nucleares. Capilares dilatados e vasios na sua maioria. Infiltração inflamatória linfo-plasmocitária dos espaços portais.

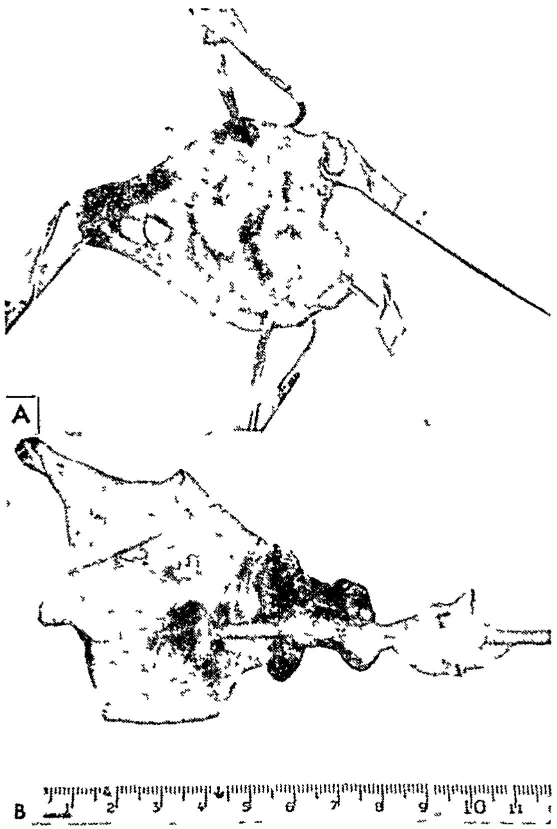

Fig. 8 (Prot. A).—*A*, foram depositados 6 cálculos pequenos 3 mm. de diâmetro. A necrópsia só encontramos 2—do mesmo tamanho que os aí deixados anteriormente. *B* (Prot. C), vesícula aberta com a sonda "in loco." Neste caso foram encontrados 2 cálculos quase iguais aos utilizados e um fragmentado.

No. de aplicações		
1—1 caso	6—7 casos	14— 1 caso
2—1 caso	7—3 casos	25— 1 caso
3—4 casos	10—3 casos	120— 1 caso
4—4 casos	11—1 caso	
5—2 casos	13—1 caso	Total—30 casos

Quadro 3

Tolerância			
Cólicas fortes	20	Vômitos	5
Cólicas fracas	10	Suores frios	3
Nauseas	15	Suspensão tratamento	0

Quadro 4

Resultados
28 curados controlados por colangiografia.
1 curado ha 10 anos. Retirou a sonda.
1 reoperado. Saida da sonda. Cálculo menór e facilmente removido.

Quadro 5

Vesícula biliar—Mucosa exuberante com o corion infiltrado por células inflamatórias linfocitóides. A musculatura acha-se substituida por tecido conjunctivo fibroso dissociado em parte por edema intersticial.

Protocolo C: Fígado—Mesmo aspecto que o descrito em B. Em certos campos nota-se nítida retenção de pigmentos biliares.

Vesícula biliar—Infiltração inflamatória do corion da mucosa. A musculatura acha-se pràticamente substituida por tecido conjuntivo fibroso dissociado pelo edema e infiltração inflamatória linfo-plasmocitária.

Protocolo E: Fígado—Estrutura mais ou menos bem conservada, com os capilares e as traves dispostos regularmente e hepatocitos conservados. Nos espaços portais nota-se marcante infiltração inflamatória constituida por elementos linfo-plasmo-histiocitários. Em alguns campos os hepatocítos ostentam discreta vacualização. Num extenso trecho do parênquima se observam raras células com nítida vacuolização e denso e difuso infiltrado inflamatório linfo-plasmo-histio-granulocitário.

Vesícula biliar—Com aspecto pouco mais acentuado que o do protocolo B.

Tratamento Clínico.—Da revisão que fizemos da literatura da calculose residual do colédoco ficou-nos a impressão que a maioria dos autores se inclinam para o tratamento conservador.

Pribram[12] embora não tenha sido o introdutor do éter como solvente dos cálculos teve o mérito de ter difundido êste método, quando divulgou sua estatística com 51 casos tratados com bons resultados, sem nenhum acidente. A maioria dos autores usam, como Pribram, o éter, adotando entretanto, o emprego de antiespasmódicos, anestésicos instilados pela sonda e coleréticos.

Armstrong e col.[29] em 1948 trataram 2 casos com sucesso pelo éter.

Sénèque e outros[30] relatam em 1952 oito bons resultados em 9 casos tratados pelo éter.

Rosenberg e col.[31] em 1957 notificam 4 casos tratados pelo éter e antiespasmódicos.

Outros autores têm publicado trabalhos revelando seus resultados com o emprego do éter.

Best e col.[7] entusiastas do emprego de clorofórmio relatam 14 casos, tratados pelo esquema abaixo, com 2 falhas.

1. Decholin e beladona em tabletes durante 3 dias.
2. Citrato de magnésio pela manhã.
3. Três colheres das de sopa de óleo de oliva.
4. Trinitrina dissolvida na lingua antes das refeições.

Técnica das instilações.

1. Remoção da bile por aspiração com seringa.
2. No. 1° e 2° dias do regimen de aumento de fluxo biliar, instilação de 4 a 5 cc. de clorofórmio aquecido à 60%. Usam sonda de dupla luz.
3. No 3° dia instilação de 5 cc. de éter precedida do emprego de trinitrina.
4. Colangiogramas sucessivos e se qualquer cálculo resistir ao tratamento este poderá ser novamente repetido 7 á 14 dias após.

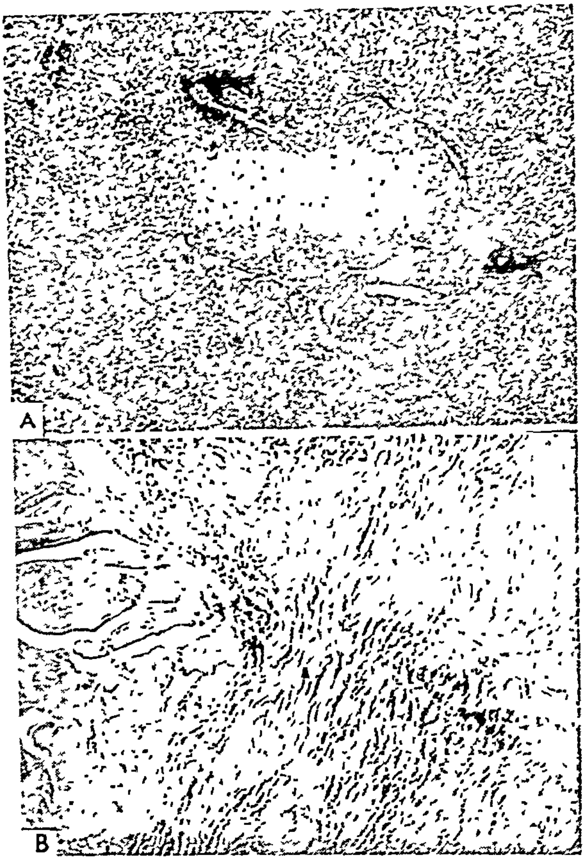

Fig. 9.—*A*, corte do fígado, mostrando vacuolização das células parenquimatosas (Prot. B). *B*, corte de vesícula mostrando infiltração inflamatória e tecido fibroso (Prot. E).

Êste método, á luz dos conhecimentos atuais nos parece interessante, excetuando o emprego, aliás parcimonioso, do clorofórmio que não tem ainda seu índice tóxico bem estabelecido, embora seu emprego seja mais complexo, deve ser destinado aos casos que o método de Pribram não deu resultados satisfatórios.

Armstrong e Sterling[29] acham que o método cirúrgico apresenta indicação nas seguintes eventualidades:

1. Obstrução completa do trato biliar com icterícia progressiva.
2. Pancreatite recurrente.

3. Lesão avançada do fígado.
4. Colangite supurada recurrente.

Tivemos oportunidade de indicar uma vez, em paciente com obstrução completa e icterícia grave, o tratamento cirúrgico. Há, além destas citadas, indicações para tratamento cirúrgico nos casos em que um dos ramos curtos da sonda saia do colédoco. É obvio que nos casos de cálculos residuais sem drenagem o tratamento cirúrgico se impõe.

Os métodos operatórios de tratamento da calculose residual são de certa gravidade e representam elevado índice de mortalidade.

Millbourn[32] em 1950, reoperando 37 doentes de calculose residual, teve 9% de mortalidade. Taxa idêntica ou inferior a de outros autores.

Casuística.—Adotamos o metodo de Pribram desde 1946 e até agora tratamos 30 casos—todos com bons resultados e sem qualquer manifestação tóxica.

A técnica padrão por nós empregada foi a seguinte:

1. Uma colher de sopa de 3 horas de solução de trinitrina, 24 horas antes da aplicação.
2. Aspiração de tôda bile contida no colédoco.
3. Lavagem do canal com 20 cc. de sôro fisiológico.
4. Instilação de 10 cc. de novocaina á 2%.
5. Inalação de uma ampola de nitrito de amilo.
6. Instilação muito lenta de 3 a 5 cc. da mistura éter-álcool.
7. Fechamento da sonda por 5 minutos; em caso de muita dôr pode-se abri-la para dar saida aos vapores de éter.
8. Instilação de 3 cc. de parafina estéril.
9. Fechamento da sonda por duas horas.
10. Diàriamente colagogos e coleréticos.

As instilações foram feitas diàriamente, longe do período de refeições, estando o paciente em jejum. O número de instilações de nossa série variou de 1 á 120 (Quadro 3).

Nos primeiros 15 casos, não fizemos uso da novocaina nem dos colagogos; atualmente, praticamos a anestesia do colédoco com a novocaina e temos tido melhor tolerancia da parte dos pacientes que se queixam menos de nauseas. A tolerância foi bôa e em nenhum caso tivemos acidente ou complicações graves (Quadro 4).

Os resultados (Quadro 5) foram bons. Todos os pacientes com exceção de um, submeteram-se a colangiografia para controle de cura e estavam com seus ductos biliares livres de cálculos. Uma paciente, retirou a sonda após 10 instilações e ha mais de 10 anos está clìnicamente curada.

Um dos casos, como o ramo curto da sonda houvesse saido do colédoco, foi reoperado. O cirurgião encontrou então, ao invéz dos 3 cálculos residuais, apenas um cálculo que estava esfacelado e foi fàcilmente removido com a cura completa do doente.

CONCLUSOES

A. O método de Pribram associado a antiespasmódicos, anestésicos e colagogos mostrou-se eficiente e com bôa tolerância dos doentes no tratamento da calculose residual.

B. As células da vesícula dos cães não sofrem nenhuma ação tóxica degenerativa pelo emprêgo do éter.

C. No figado foram observadas lesões tóxico-degenerativas. Assim nos parece o éter nocivo às células hepáticas de cães, pelo menos na dose relativamente alta (5 cc.), empregada.

D. O macanismo de expulsão dos cálculos residuais do colédoco pela clínica e pela experimentação é representado por dois fatores: a dissolução e fragmentação dos cálculos e o aumento brusco da pressão intracoledociana.

E. Nos casos de presença confirmada de

cálculos residuais, porém de impossibilidade de remoção dos mesmos, devido ao máo estado geral do doente ou por outra causa qualquer, está indicada a drenagem do colédoco e o emprego posterior do método de Pribram associado aos antiespasmódicos.

RESUMO

Os AA. fazem uma revisão da literatura referente a calculose residual das vias biliares. Salientam a importância da exploração operatória do colédoco nos doentes portadores de litíase biliar. Analizam os métodos de tratamento da calculose residual e dão as justificativas e indicações dos métodos conservadores. Apresentam sua experiência no tratamento da calculose residual em 30 casos, curados pelo emprêgo do método de Pribram associado ao uso de antiespasmóticos. Estudam experimentalmente em 14 cães a ação do éter sobre os cálculos e sobre a mucosa vesical e fígado, mostrando ser o éter nocivo a este órgão.

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◆

Digitalis, or foxglove, is a remarkable drug and has an interesting history. Its great value as a heart medicine was discovered by William Withering, of Birmingham, England, in 1775. Withering was not only a physician, but a botanist, interested in various phases of science. In Birmingham he was a member of the Lunar Society, which met monthly at the time of the full moon, for the discussion of scientific problems. Joseph Priestley, the clergyman chemist, of whom we shall hear much later, was also a member, as was James Watt, of steam-engine fame.

In 1775 Withering heard of an old woman in Shropshire who had a secret remedy for dropsy and sometimes made cures after the regular practitioners had failed. Withering secured the recipe and found it contained "twenty or more different herbs; but it was not very difficult for one conversant with these subjects to perceive that the active herb could be no other than Foxglove." Withering's knowledge of botany and materia medica stood him here in good stead.

At this time Withering was a physician at the Birmingham General Hospital, and the new remedy, in the form of a decoction, was introduced into the dispensary practice. Soon after, it was employed successfully in the case of the Principal of Brasenose College, Oxford, who had a dropsy declared incurable by the first physicians of the age. Withering's interest in the drug was further stimulated on hearing that the Principal had been cured, and he continued to have remarkable success with the drug, which soon became the sovereign remedy for dropsy. The use of digitalis spread quickly in other medical centres, particularly in Edinburgh, his old Alma Mater. Withering's reputation grew rapidly and patients came from London, Paris, and other cities to consult him. Among others, came our own Benjamin Franklin, then at the height of his powers and reputation.

—*Major*

Editorial

The Story of Medical Illustration

THOMAS S. JONES, M.S.[*]

CHICAGO, ILLINOIS

THE first serious effort to trace the history of the pictorial representation of human anatomy was made by Ludwig Choulant more than a hundred years ago. Since then the subject has engaged the interest of many medical historians and writers, including such Americans as Garrison, Streeter, and Corner. As a result we have a fairly complete chronologic story of the development of medical illustration up to the middle of the nineteenth century. From this point on the story is less comprehensive. Little has been written of the significant changes that came later and that led up to the situation as it exists today. For this reason I have tried here to condense the earlier phases of the story in order to give more space to its more recent developments and its present status.

Today medical illustration is defined as the graphic representation of any medical subject, made for the purpose of communicating medical knowledge. In the usual historical sense, however, medical illustration includes all ancient pictorial or sculptured representations having to do in any way with physicians or bodily ills. This includes, of course, considerable material in which the medical character or interest is incidental to the main purpose of the picture or carving. In these representations, thousands of which exist in clay or in stone and as old manuscript illustrations, the subject was chosen by (or for) the artist for artistic, social or religious reasons, with no intent to teach medical facts. The earliest of these are found in Egyptian, Babylonian and Greek art, which abounds in representations of healing divinities, votive offerings and deified physicians surrounded by the implements of their trade, etc., some of them dating back to 2500 B. C. As time goes on there gradually emerges more and more representations that approach the category of authentic medical illustration. Among the earlier examples of these are the Greek vase paintings showing technics of bandaging and treatment of the wounded. Many of these were done about the time of Hippocrates, and some were probably inspired by his teachings (Fig. 1).

Here mention should be made of the famous school and museum at Alexandria. Galen tells of studying here the writings of Herophilus and Erasistratus, the most celebrated anatomists of antiquity. They lived in the third century B. C. and are said to have been the first to dissect the human body and, according to the record, almost the last for the next fifteen hundred years.

With the destruction of the Alexandrian library by the Arabs in 640 A. D. all its precious manuscripts were lost, but there is evidence that certain pictorial represen-

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Revised and amplified version of talk delivered as 1951 D. J. Davis Lecture in Medical History at the University of Illinois College of Medicine and later at the International Surgeons' Hall of Fame of the International College of Surgeons, Chicago.

During the months of 1960 and as long thereafter as possible, the editorial pages of the Journal of the International College of Surgeons *will be honored by presentations of rare and extraordinary historic value, the lectures presented at the International Surgeons' Hall of Fame on medical and surgical history from the earliest recorded achievements to those of our own times. We believe that* Journal *readers who were not able to attend the lectures will find them as exciting as did the audiences present at their delivery. The story of progress in the healing arts and the giants of medicine and surgery to whom we owe the amazing brilliance and scope of modern achievements is intrinsically thrilling and is a vital part of the education of every cultivated man and woman, inside or outside the profession. It is altogether fitting that it should appear in these pages, since the International College of Surgeons is first, last and always a teaching institution.*

tations of human anatomy used during the Middle Ages originated in the Alexandrian School. Best known of these is the so-called Five Picture Series, which depicts schematically the bones, muscles, blood vessels and nerves. These figures or charts were copied and recopied, and many versions of them have been found. They were apparently the standard anatomic representations for centuries in Europe and other parts of the world. Travelers in remote parts of China and Tibet have reported seeing pictures which were seemingly derived from the traditional Five Picture Series in use there as late as 1900. Another example of anatomic illustration that can be traced back to the Alexandrian school is the group of schematic drawings of the eye found in the Arabic manuscripts of the Middle Ages. Some historians find, in manuscript pictures from the beginning of the Christian era down to the fourteenth century, considerable progress in the representation of human anatomy. There is a wealth of these old illustrations available for study (Fig. 2). The best of them, however, are so elementary and inaccurate that it remains a mystery to me why, during all those long centuries, so little was learned about man's structure. Of course the reproduction of pictures had not been invented. Each one had to be done by hand, which greatly restricted their use. Another factor was the spirit of the times, which discouraged independent thought and any exploration of the truth in nature. The medieval world, both in Europe and in the East, was dominated by mysticism, religious dogma and speculative philosophy. Progress in art and science was dormant, and spoken language was the only medium of communication that found favor in such a climate. Choulant observes that, during the early Middle Ages, "all medical science had come to us from the hands of the Arabs, to whom dissection and even pictorial representation of the human figure, was prohibited by the law of Islam."

The restrictions of church and state on human dissection, which had barred all anatomic study except that of animals up to that time, began to relax late in the medieval period. Crude illustrations, usually miniatures, occasionally appear in manuscripts as early as the ninth century, which show evidence of observation of internal structures. Only two of these need be mentioned here. One, of unknown origin, dating from the twelfth century, shows four positions of a blithe and somewhat muscular fetus *in utero*. It is of interest be-

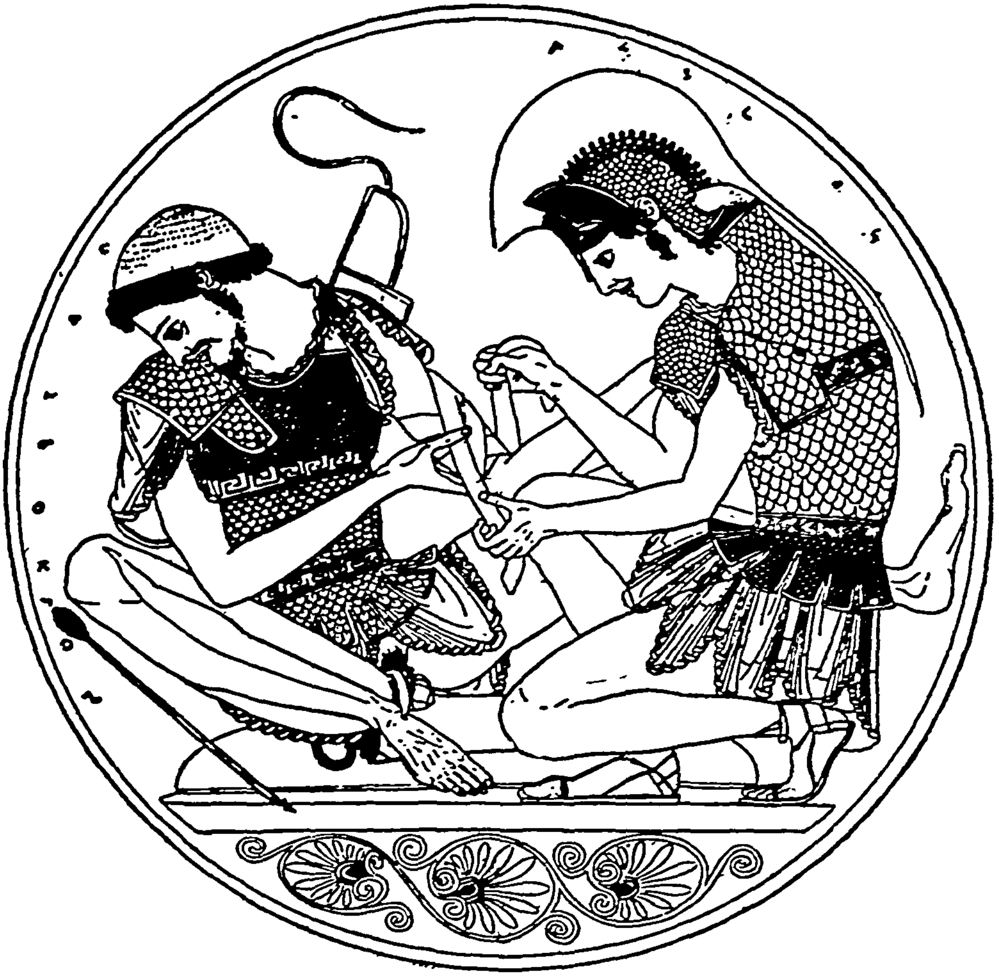

Fig. 1.—Greek vase painting of fifth century B.C., showing bandaging.

cause it shows that change in fetal position was known at that time. The other is a page containing twelve tiny figures in a manuscript by Henri de Mondeville dated 1314. De Mondeville is said to have been the first to use graphic charts in his lectures on anatomy, and the figures in this plate are thought to be miniatures of the life-sized charts he used in the classroom.

At about this time another curious type of anatomic figure became popular in Europe. This was known as the zodiac blood-letting chart. The human figure, showing veins and often viscera, was pictured, surrounded by the signs of the zodiac. Guide lines showed the surgeon where to cut and when, according to favorable planetary influence. Labels on these charts sometimes read "for headache, cut here" or "for tumor, cut here." Up to the time of the Renaissance, and probably for some time thereafter, pictures showing the veins of the body were more in demand than pictures on any other medical subject. This is not surprising, in view of the fact that bloodletting was one of the most widely practiced forms of therapy for human ills from the time of Hippocrates to the days of our own grandparents.

The appearance of wood engraving at the beginning of the fifteenth century, which made possible the reproduction of pictures, was an important milestone in the use of illustrations in all learning. Actually wood engraving had been invented and used by the Chinese as early as the ninth century, but the first woodcut known to be used in Europe appeared in the year 1400. It was more than a hundred years later before we find evidence of its having been used to any extent for medical illustration. It is a curious and significant fact that in the first printed books of anatomy, which appeared toward the end of the fifteenth century, the woodcuts, which were sparingly (and, one can imagine, almost reluctantly) used were extremely crude and schematic. Direct observation from human dissection was then possible, but neither author nor artist seemed interested in altering the traditional concepts of human anatomy, which were based upon the study of animals. The influence of Galen was still strong, and they were not ready to believe entirely even the evidence of their own eyes.

One of the early uses of wood engraving for medical subjects was the production of so-called fugitive sheets. These were individual broadsheets or small anatomic charts, which seem to have been widely used as guides by barbers, surgeons and bath attendants. The early ones were crude, representing only slight improvements over the Five Picture Series and the bloodletting manikins. Those of a later date were much better and were the work of some of the best artists and anatomists of the day.

The Renaissance period, which brought to life the arts and crafts and a spirit of independent investigation that had slumbered for centuries, was the cradle of true medical illustration. From the point of view of illustrators today, all that had gone before was prelude. What actually happened at this time forms one of the most important chapters in the history of the graphic arts as well as in the science of anatomy. The story of how it began has been told so well by Saunders in his book on Vesalius that I shall quote him here:

"The Renaissance saw the emergence in the realm of art as a new dogma of aesthetic theory which stated that a work of art is a direct and faithful representation of natural phenomena. The assumption required that the artist acquaint himself with the structure and with the rules of perspective and mathematics in order to obtain representation correctness. Art had gone scientific. By the fifteenth and sixteenth centuries the new theory was firmly established and universally accepted, and it was therefore entirely logical that in their study of nature artists such as Verrocchio, Mantegna, Signorelli, Pollaiuolo, Leonardo da Vinci, Albrecht Durer, Michelangelo and Raphael, should turn with enthusiasm to the detailed study of the human body. Modern natural science owes more to the efforts of these theorizing artists than to all the learned commentaries of the physicians on the Greeks and their Arabic interpreters."

The anatomical investigations of artists of the Renaissance, with the exception of Leonardo, contributed only indirectly to the development of medical illustration. From their dissections these artists learned what they set out to learn; i. e., a firsthand knowledge of the human form, so lacking in the work of their predecessors, in order that they could represent the figure in their paintings and carvings with greater fidelity and expression. That they accomplished this superlatively well is clearly evident today in the masterpieces of art they created.

Michelangelo and Durer went further; they left behind graphic studies and notes on body proportions which, together with similar records by Leonardo, laid the foundation for what is known today as artistic anatomy, or anatomy for painters of the

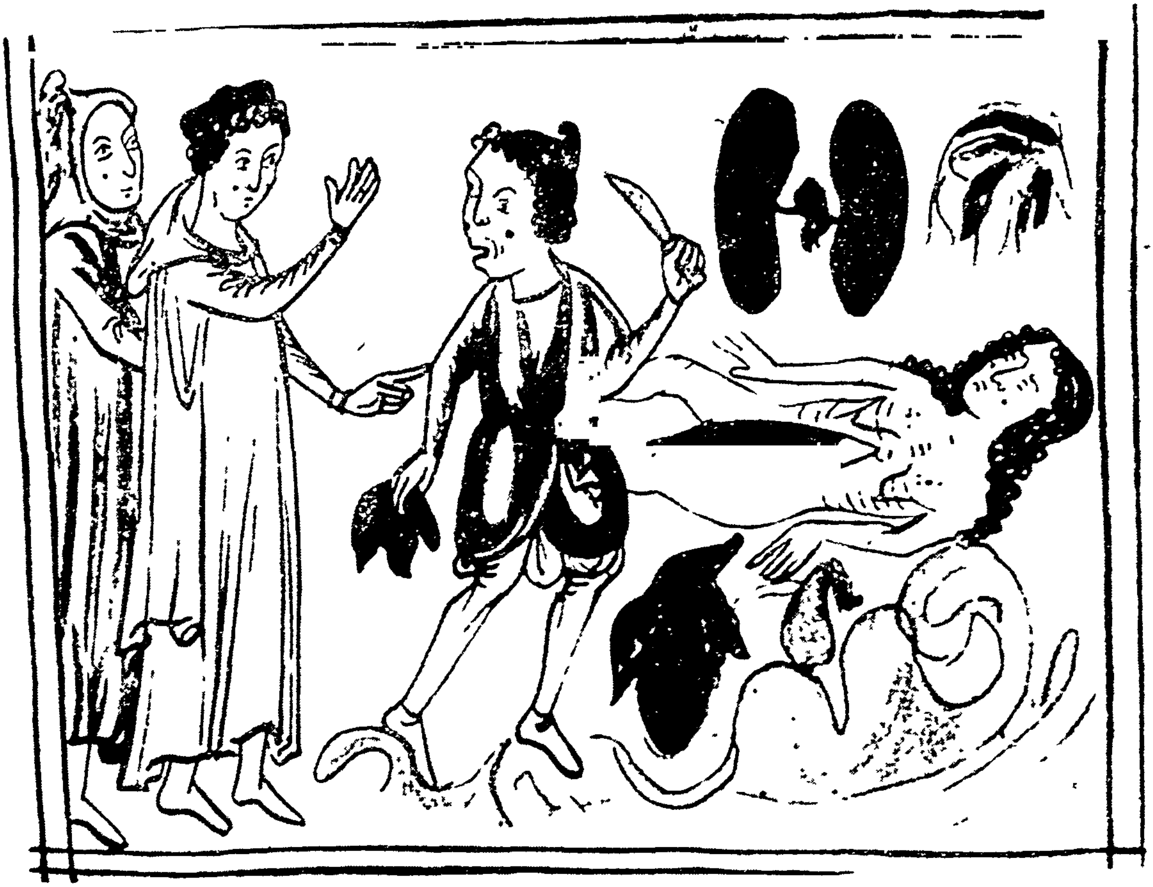

Fig. 2.—First known picture of human dissection (seventeenth century).

human figure. John Ruskin had a low opinion of these artists' concern with anatomy. Speaking of Pollaiuolo, he said: "A man of immense power, but on whom the curse of the Italian mind in this age was set at the deepest . . . he and Castagno, Mantegna, Leonardo da Vinci, Michelangelo, polluted their work with the science of the sepulchre and degraded it with presumptuous and paltry technical skill." In sharp contrast to Ruskin is the view of Charles Singer, who wrote: "One of the three intellectual streams that has widened down to the scientific flood of our times—was the research for representational exactness that was the leading characteristic of Renaissance art."

The father and, I like to think, the patron saint of medical illustration was Leonardo da Vinci. He was the first to explore systematically and to record pictorially the entire structure of man's body. When he died at the age of 66 in the year 1518 he left nearly 800 beautifully executed anatomic sketches and drawings with detailed written descriptions. This monumental work was based upon his study of some 50 bodies, which it is now thought he dissected in the hospitals of Florence, Rome and Milan.

It was Leonardo's plan to bring out a great treatise on human anatomy with the cooperation of Marc Antonio della Torre, a physician of Florence. Other demands upon his time prevented its completion before his death, and the notebooks and drawings lay hidden, their existence unknown, for several centuries. His superb drawings, familiar to all today, are looked upon as models of artistic skill and careful scientific observation. It has been said by Garrison that, if Leonardo had published what he had completed, physiologic anatomy would have been a "going" science long before Harvey. To this I may add that it would probably have revolutionized the art and philosophy of illustration also. He was the first to point out the hopelessness of describing or teaching anatomy without pictures and the fact that form, color and relations cannot be communicated with words.

In 1541, twenty-three years after the death of Leonardo, there was published in Basel the most important medical book of all time. It was the now famous textbook of anatomy *De Humani Corporis Fabrica,* by Andreas Vesalius. Volumes have been written about this great folio, which was destined to revolutionize the teaching of human anatomy and to lay the foundation upon which that science rests today. The *Fabrica* was a remarkable book in many respects. In no other respect, however, was it so remarkable as for its illustrations. These were large, beautifully executed woodcuts, which were so superior to anything published up to that time that they set a standard of excellence that was to endure for a long time to come. In fact, as examples of early wood engraving, the plates are held in high esteem today. There has been much speculation as to the identity of the artists and engravers of the *Fabrica* illustrations (about which Vesalius was quite vague). Because of their high artistic merit, it was thought at first that Titian had a hand in the drawings. It is now believed that they were made by several artists, probably pupils of Titian, the chief of whom was Jan van Calcar. Vesalius, no mean artist himself, is thought also to have made some of the preparatory drawings as he worked at the dissecting table. Calcar was a well-known painter of the day and a close friend and advisor of Vesalius. It is said that he painted so much like Titian that it was sometimes hard to tell his work from that of his master. Whether this is true or not, Calcar's paintings are forgotten, while four hundred years later he shares with Vesalius an enduring fame for what his art contributed to the *Fabrica.*

One of the first things one notices about the plates of the *Fabrica* is the design of the figures. They are posed in attitudes of living persons and even express, in a macabre fashion, emotions and feelings. This is heightened by the addition of landscape backgrounds in some of the plates, as if the figures, in various stages of physical dissolution, were going about their business as usual. This quality was a characteristic of anatomic illustration before, and for some time after, Vesalius. It was customary to endow all full figures with living attributes and to add to the picture whatever extraneous material was necessary to make an artistic composition. In the older books on anatomy we encounter beautifully engraved plates showing, for instance, a male figure with the muscles exposed, carrying his skin on his arm and admiring it with a complacent air. Another will show a female figure, very much alive, seated on cushions with all the self-conscious grace of a Hollywood actress, coyly displaying the contents of her abdomen.

By the end of the eighteenth century the style of medical illustration began to change. The custom of dramatizing anatomic figures gave way to an exact and even slavish copying of the dissected subject. On the theory that nature should be represented exactly as she was found, artists put into their pictures everything that was visible to the eye and nothing else. No selection or interpretation was allowed.

The subjects were obviously very dead indeed and were often shown surrounded by whatever irrelevant apparatus or furniture that met the eye, all worked out in equal meticulous detail. In spite of the somewhat gruesome character of the illustrations of this period, one cannot help admiring the fine craftsmanship that often went into their making. In Italy, Germany and England the ablest artists were customarily employed. This accounts for the often high artistic quality of the illustrations and helps to explain the charm they have for us today.

One cannot speak lightly of these old illustrations. Many of them have an interest and an esthetic quality that our modern medical pictures lack. The better ones display a sense of design and fine craftsmanship that few medical illustrators today seem to possess. *From an esthetic* standpoint, many will agree with Dr. Claudius Mayer of the National Medical Library, who wrote in 1936: "Today, the fanciful is abandoned for the exact, the dream for the truth, the superfluous and the charming for the necessary and the dry. Only a new renaissance could resuscitate the now dead art of medical book illustration."

Shortly after the publication of the *Fabrica,* wood in engraving began to be replaced by steel and copper. Although the first picture on metal was made in the year 1446, it was not used for a medical subject until forty-six years later. Wood engraving continued to be used even down to modern times, but the superiority of copper made it the material of choice when fine detail was required.

The theory held by some of the older anatomists, that anatomic drawings should be photographic, happily did not endure. The concept of medical illustration, which it seems to me has characterized all of the finest work from the time of Leonardo da Vinci down to the present, was expressed by Albinus in 1747. In the preface to his own classic work on anatomy (which was illustrated with 40 admirable copper plates) he wrote: "To reproduce, not—according to the view, as is customary, but from actual measure: to reproduce what the best in nature displays: to reproduce, not as the demonstrators of anatomy generally do, by merely placing before the eyes of the artist what they have uncovered, but by collecting (data) from one body after another, and making a composite according to rule so that the actual truth will be displayed, etc. I am of this opinion, that what Nature, the arch workman, which is generally the source of everything, has fashioned must be sifted with care and judgment and that in the endless variety of Nature the best elements must be selected."

The pattern established by Vesalius and perfected by Albinus, Casserio, Cheselden, Bidloo, Von Soemmerring and others during the eighteenth and nineteenth centuries was not materially altered except as new and improved methods of engraving were employed. This period, however, saw the publication in England, Germany, France and Italy of many beautifully illustrated medical books. Some were quite large—folio and elephant folio—with life-sized illustrations reproduced by engraving and etching on copper, by steel engraving, by lithography and by some of the earlier methods of color printing, such as aquatint. To appreciate properly the quality of these reproductions one must bear in mind that photoengraving had not been invented; all engraving involved handwork and craftsmanship of a high order.

One of the most significant aspects of medical illustration during the nineteenth and late eighteenth century was the number of books illustrated by the authors themselves. The list of these remarkably talented artist-authors is impressive. It contains the names of such medical pioneers as Cheselden, Scarpa, Richard Bright, John and Charles Bell, Joseph Lister, Jacob Henle, Carl Ludwig, Seymour Hayden, and others. In this connection one cannot omit a later famous example—Ernst Bumm, a German obstetrician, whose illustrations for his famous textbook on obstetrics published in 1902 are superb examples of the art of illustration.

The list of artists of the past whose work has created the visual language of medicine is long, and only a few names can be included here. Some of them are better known for their eminence in other fields, e.g., Sir Christopher Wren and Thomas Sully. One, however, has special significance to Americans. He is Jan Van Riemsdyk, who in 1755 was commissioned by Dr. John Fothergill, physician philanthropist of London and friend of Benjamin Franklin, to do 18 anatomic paintings that he wished to contribute to America to further the teaching of physicians in this new country. They were sent to his old pupil Dr. William Shippen Jr., of the Pennsylvania Hospital in Philadelphia, where they played an active role in the teaching of anatomy in the earliest American effort at medical education. Some years ago the story was featured by Ripley in his *Believe It or Not* series and was entitled, as I recall, "First medical school started by artist." The Riemsdyk paintings (they are actually pastels), known as the Fothergill collection, have been carefully preserved and can be seen on request in the library of the Pennsylvania Hospital in Philadelphia.

The invention of photography in the 1830's, which was to revolutionize the communication of knowledge, had a profound effect on medical illustration. From photography came photoengraving and the lantern slide in the 1880's and, later, motion pictures and television. Photoengraving, which made possible the rapid, accurate and economical reproduction of pictures, opened the door to the widespread production of illustrated medical literature, which in turn created a demand for artists who could turn their talents toward the illustration of medical subjects. Happily, those chosen to illustrate some of the books produced when photoengraving became available were exceptionally well-trained artists. Among the books they illustrated are several of the textbooks of anatomy in current use today. One of them, Spalteholz' *Hand Atlas of Anatomy,* with illustrations by Heroux and Unger, is considered by many to contain the finest medical illustrations ever produced. It has been nicknamed the "Medical Illustrators' Bible."

American medical illustration is thought of as dating from about the Civil War. The medical literature of this period contains many of the drawings of Herman Faber, an excellent artist, whose famous drawing, *The Death of Lincoln* is displayed in the Armed Forces Medical Museum in Washington. The Faber name was carried on for many years by his two sons Ludwig and Erwin (Fig. 3), who illustrated many medical books, among them Piersol's *Human Anatomy,* published in 1906. Here two names should be mentioned as representing pioneer work in medical photography and an important contribution to the wider use of medical illustration. The first of these was Louis Schmidt, an able artist, who did valuable experimental work in photomicrography at the Rockefeller Institute around the turn of the century. Somewhat later Roy Reeves, working in the Army Medical Service in Washington, became widely known for his contribution to color photography and other forms of medical photography.

Probably the best-known name in American medical illustration is that of Max Brodel, who came to this country from

Germany in 1895. His beautiful drawings, which illustrate the works of Kelly, Halsted and others, are classic examples of the medical illustration art. Brodel was a fine teacher, and the first school of medical illustration was started by him at Johns Hopkins Medical School in 1911.

Up to this point I have tried to discuss briefly some of the more significant aspects of the evolution of medical illustration down to the present time. A few statistics here will help to give a clearer picture of the situation today. It is estimated that the number of professional medical artists in the world today is somewhere around four hundred. Many of them are women. About two-thirds of these are in the United States and Canada. There

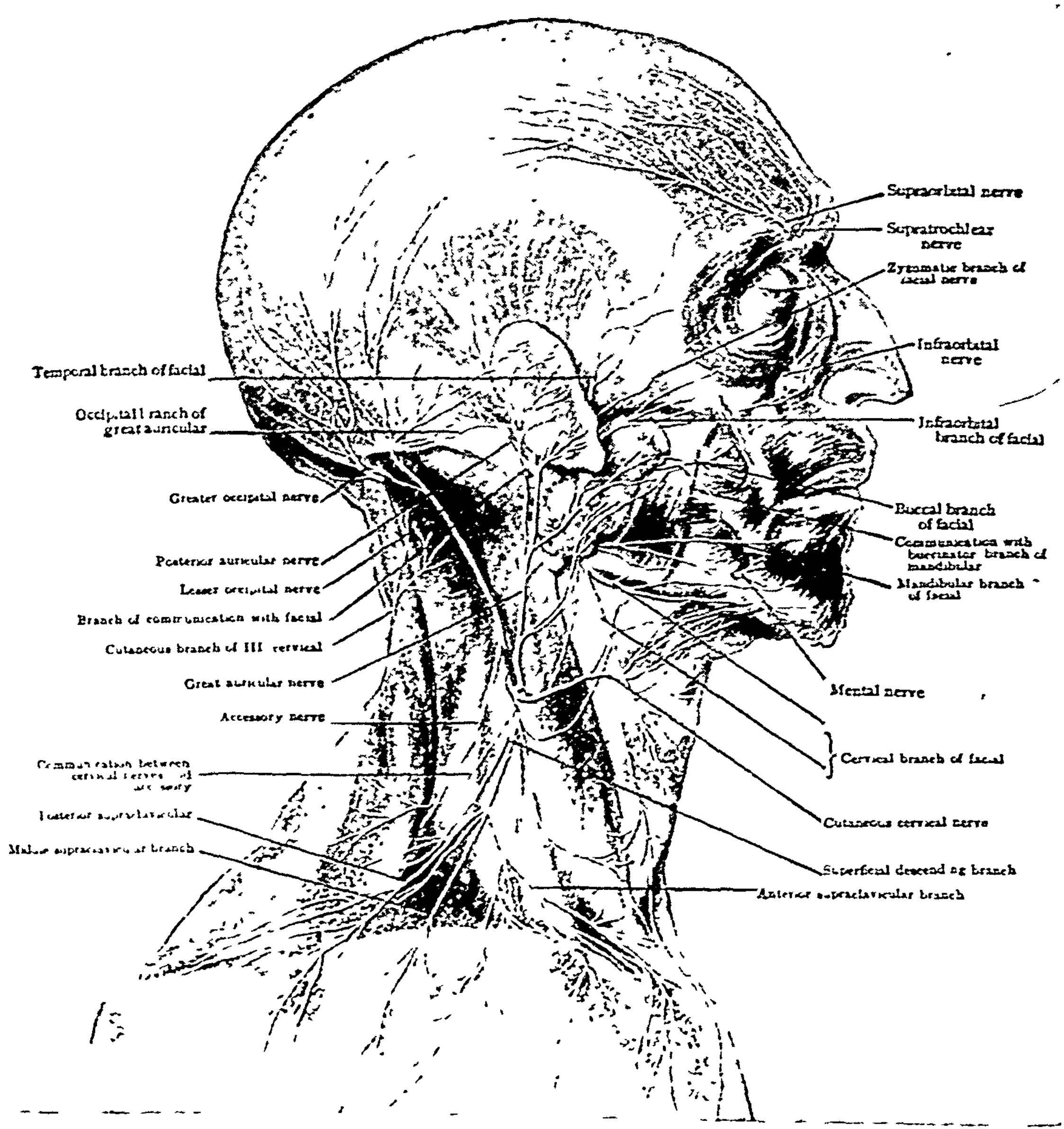
Supraorbital nerve
Supratrochlear nerve
Zygomatic branch of facial nerve
Infraorbital nerve
Infraorbital branch of facial
Buccal branch of facial
Communication with buccinator branch of mandibular
Mandibular branch of facial
Mental nerve
Cervical branch of facial
Cutaneous cervical nerve
Superficial descending branch
Anterior supraclavicular branch
Temporal branch of facial
Occipital branch of great auricular
Greater occipital nerve
Posterior auricular nerve
Lesser occipital nerve
Branch of communication with facial
Cutaneous branch of III cervical
Great auricular nerve
Accessory nerve
Communication between cervical nerves and accessory
Posterior supraclavicular
Middle supraclavicular branch

Fig. 3.—Wash drawing by E. Faber. (From Piersol's *Human Anatomy*, Lippincott, 1906.)

are nine schools that offer training in the field, seven of which are in the United States. The profession was organized in 1945 as the Association of Medical Illustrators, with definite standards of training and experience required for membership. The medical photographers have an older and larger organization known as The Biological Photographic Association. Both groups meet annually, and each has its own journal.

Medical illustration today has changed greatly since I started in the profession fifty-five years ago. I shall resist the temptation to reminisce here and say only that today the field has expanded almost beyond the old-timers' recognition. Although photography has taken over most of the microscopic and specimen work as well as pictures of patients, nearly all of which were done by artists in the old days, the services of the illustrator are in wider demand than ever before. The main reason for this is the universal recognition of the fact that the communication of knowledge can be accelerated and made more effective through the use of visual technics.

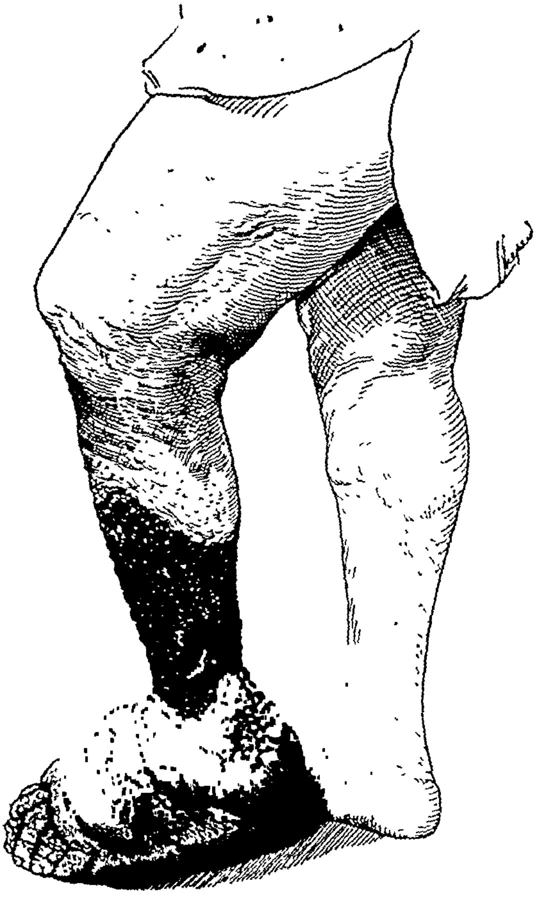

Fig. 4.—Pen and ink drawing by W. C. Shepard. (From Homan's *Text Book of Surgery*, Charles C Thomas, 1945.)

The biologic sciences, which were slow to alter their traditional teaching methods, now demand a quantity and variety of visual media undreamed of by our forefathers. Medical and health education, as well as research, requires a steady stream of illustrations of many kinds for books and journals. Also required are models, exhibits, motion pictures and pictorial aids to television. The design and production of these materials is the province of the medical illustrator (Fig. 4).

In terms of evolution or progress, what can be said of the quality of the present-day illustration of medical books? Any appraisal will depend upon the yardstick one uses. Some, such as Dr. Mayer whom I quoted earlier, seem convinced that we no longer have the type of artists and craftsmen who produced the beautiful, artistically illustrated books of a bygone era. From an esthetic standpoint this may be true. My own criterion of what constitutes good illustration is quite different. Essentially, the question is this: How successfully does it communicate medical facts and ideas? To do this it must be well designed, pleasing to the eye, accurate in detail and capable of conveying its meaning quickly and clearly. Measured by this standard, I think more good medical pictures are being made now than at any time in history. True, not all of them are good, and I find myself worrying about the work of unqualified artists that often appears in professional publications. But when I think of the progress that has been made and the long list of excellent, versatile, well-trained persons who provide most of the wide variety of medical illustrations used today, I feel satisfied that we have come a long way and have kept pace with the progress of medicine.

* * *

In 1902 Lewandowsky and Langley showed that a notable similarity existed between the action of adrenal extracts and that produced by stimulation of the sympathetic nerves. Two years later, Elliot made the same observation, using adrenalin. He propounded the hypothesis that adrenalin might be the chemical excitant that was liberated when the sympathetic nerve impulse reached the periphery at the level of its nerve endings. In 1921, Loewi showed that by making a Ringer solution circulate through a heart removed from a frog, the solution acquired sympatheticomimetic properties (and increased the frequency and amplitude of the cardiac contractions when applied to another heart) if the sympathetic fibers of the vagosympathetic nerve were stimulated. This *Acceleransstoff,* or Loewi's accelerating substance, hypothetically liberated during sympathetic stimulation, was later (1931) called *sympathine* by Cannon and his collaborators. It was then shown that stimulation of the sympathetic nerve liberated a substance, in the nerve endings of the organs innervated by fibers, of the type called adrenergic because they imitate the adrenalinic effect. So another new concept was introduced in endocrinology: that the effects of all nerve impulses emanating from peripheral nerves are caused by the liberation of certain chemical substances.

Doubt about whether the transmitting adrenergic substance was always and totally adrenalin was allayed years later when Cannon dubbed it "sympathine." It was thus established that the effects of adrenalin, when applied artificially, are similar but not absolutely identical to the effects of the sympathetic nerve impulses and the chemical transmitter that is released into the blood—at the point where the endocrine gland producing it liberates it—to be carried a great distance.

—*Marti-Ibañez*

New Books

BOOKS RECEIVED

The following books have been received by the Editor; they will be reviewed critically as space and facilities permit. Omission of more extended review, however is not to be taken as criticism of the merit of the book.

Transplantation of Tissues. By L. A. Peer. Baltimore: The Williams & Wilkins Company, 1959. *Reviewed in this issue.*

Pathology. By Peter A. Herbut. Philadelphia: Lea & Febiger, 1959. Pp. 1,516, with 1,512 illustrations, including 6 color plates. *Reviewed in this issue.*

Spinal Cord Compression. By I. M. Tarlov. Springfield, Ill.: Charles C Thomas, Publisher, 1957. Pp. 147, with 41 illustrations.

Le Diagnostic du Cancer d'Estomac a la Periode Utile (Diagnosis of Carcinoma of the Stomach at the Time Most Favorable for Treatment). By Rene A. Gutmann. Paris: G. Doin et Cie, 1956. Pp. 257.

Operative Surgery. Edited by Charles Rob and Rodney Smith. London: Butterworth & Co., Ltd.; Philadelphia, F. A. Davis Co., 1956. Vols. 1 and 2 of 8 (plus index). Profusely illustrated.

Trattamento Chirurgico Conservativo della Tuberculosi Urinaria (Conservative Surgical Treatment of Urinary Tuberculosis). By C. Chiaudano and V. Giongo. Edizioni Minerva Medica, 1959. Pp. 349, with 63 illustrations.

Functional Bracing of the Upper Extremities. By Miles H. Anderson. Springfield, Ill.: Charles C Thomas, Publisher, 1958. Pp. 463. Illustrated.

The Clinical Management of Varicose Veins. By David Woolfolk Barrow. New York: Paul B. Hoeber, 1957. Pp. 167, with 70 illustrations.

Trauma. By Harrison L. McLaughlin. Philadelphia and London: The W. B. Saunders Company, 1959. Pp. 784. Illustrated.

Chirurgie Infantile d'Urgence (Emergency Surgery on Children). By Marcel Fèvre, with the collaboration of Denys Pellerin. Paris: Masson et Cie, 1959. 2nd ed. Pp. 718, with 201 illustrations.

Pathology and Surgery of the Veins of the Lower Limbs. By Harold Dodd and Frank Cockett. Baltimore: The Williams & Wilkins Company, 1957. Pp. 462, illustrated.

Cancer; Diagnosis and Treatment. Edited by John B. Field. Boston: Little, Brown & Company, 1959.

Le Cancer de la Prostate; Son Diagnostic, Son Traitement Radiumthérapique (Cancer of the Prostate; Diagnosis and Radium Therapy). By Raymond Darget. Paris: Masson et Cie, 1958. Pp. 160, with 85 illustrations.

Transplantation of Tissues. By L. A. Peer. Baltimore: The Williams & Wilkins Company, 1959.

This is the second volume of this series. It has twelve contributors, outstanding in their respective fields. It contains sections on the following topics: cells and tissues, zoologic laws, skin, cornea, fat, nerves, teeth, blood vessels, endocrine glands, organs, peritoneum, tumors and tissue culture. Extensive bibliographic references follow each section.

Each section is well organized, summarizing current knowledge in the various fields. The section on free fat grafts by Lyndon Peer contains much valuable information on this type of tissue transplant. The chapter by Sterling Bunnell is a careful study of the nerve graft.

Tremendous strides have been made in transplantation of tissues since the publication of Volume I. This book is invaluable because of its clear and concise information on the history and present status of the subject. It is a necessity for every surgical library.

NEAL OWENS, M.D.

Total Surgical Management. By James D. Hardy. New York: Grune & Stratton, 1959. Pp. 292, with 50 illustrations.

Dr. Hardy has written an excellent book on a difficult subject. The reason for this title, as the author states in his preface, is to "achieve a comprehensive designation most suitable to convey the range of material." Although the operation *per se* is responsible in the main for the success of the treatment, yet total success is dependent upon preoperative and postoperative management as well. The author states that the book is intended primarily for general surgical practitioners, senior medical students, interns and surgical residents. With this the reviewer wholeheartedly agrees and is convinced also that surgical specialists as well could glean much from its pages. For particular commendation must be mentioned Chapter 22 which is entitled "The Trip to Surgery and the Recovery Room." Surgical supervisors who read this book will appreciate especially the author's comments on the causes of delay in getting the patient to operation. This book can be recommended.

PHILIP THOREK, M.D.

Pathology. By Peter A. Herbut. Philadelphia: Lea & Febiger, 1959. Pp. 1,516, with 1,512 illustrations, including 6 color plates.

The first edition of this impressive work appeared only four years ago, but the advances in knowledge of pathology have been so rapid that a revision was indicated. Consequently 228 pages and 213 photographs have been added to the original text. Much of the material has been completely rewritten. In the first section, which deals with general pathologic processes, greater emphasis has been placed on mechanisms and pathophysiologic aspects than before.

In the remainder of the book, on systemic pathology, a section on pathologic physiology has been prefaced to each chapter. The pattern for each chapter is (1) a summary of normal physiology; (2) a discussion of the deviations from normal in specific disease states or groups of diseases; (3) an explanation on morphologic grounds of the reasons for the physiologic alterations; and (4) a discussion of the various laboratory tests by which altered physiologic function can be discerned. In forty chapters, every area of the human body is studied in this manner. The result is an exhaustive study that brings the reader completely up to date on the subject. It was prepared with the help of twenty-one contributors, nearly all, as is the author, connected with the Jefferson Medical College of Philadelphia.

Intended originally for the student of medicine (undergraduate or postgraduate), it is recommended to the mature physician and surgeon as well for its authoritative information.

MAX THOREK, M.D.

Abstracts from Current Literature

The Risk to the Fetus in Cesarean Section. Hesseltine, H. C., and Freese, U. E., J. Iowa M. Soc. 49:135, 1959.

In planning elective cesarean section, one should be certain that the fetus is of term size. Infants delivered through the abdominal wall should be watched closely and treated promptly for any respiratory difficulty.

For some reason, a previously unembarrassed fetus delivered by section apparently has an increased tendency toward poor respiratory behavior, atelectasis, retraction of the chest and, perhaps, disease of the hyaline membrane. Efforts must be made to improve this critical situation. Cesarean section must not be abused, yet it must not be neglected. There is no greater goal than that of assuring a healthy mother and a normal, healthy infant.

Though cesarean section is an indispensable procedure, it has hazards for both mother and baby today.

EDMUND LISSACK, M.D.

Thyroid Cancer and Its Treatment. Welch, J. W.; Hellwig, C. A.; Chesky, V. E., and McCusker, E. N., Surg., Gynec. & Obst. 109:27, 1959.

The authors, with an extensive and distinguished experience in the treatment of surgical diseases of the thyroid gland, report 267 cases of thyroid carcinoma (8.8 per cent) occurring in a series of 3,024 consecutive "surgical thyroid patients" observed over a fifteen-year period ending in 1956.

These cases have been classified into two categories, favorable and unfavorable.

The favorable group consisted of the following types: pure papilloma, 31 cases; the follicular variant, 33 cases; follicular carcinoma, 13 cases; Hürthle cell carcinoma, 73 cases; invasive adenoma, 52 cases, and clear cell carcinoma, 6 cases, with an overall survival rate of more than 80 per cent. The unfavorable group consisted of giant cell carcinoma, 6 cases; small round cell carcinoma, 2 cases; malignant lymphoma, 5 cases; hemangioendothelioma, 1 case, and diffuse adenocarcinoma, 45 cases, with an overall survival rate of about 35 per cent.

In the authors' clinic frozen sections of the thyroid tissue are not and never have been acceptable. If malignancy is subsequently established on the permanent sections and the original operation is considered to have been inadequate, a second, more radical procedure may be elected. Needle biopsy of the thyroid is considered unsatisfactory.

The most outstanding criteria of malignancy in their opinion, are capsular invasion and evidence of metastatic growth. The presence of mitotic figures, relatively infrequent in their experience, and invasion of blood vessels are of less importance. In the body of the paper each type of malignant lesion is analyzed thoroughly, with particular attention to details concerning the scope of the surgical procedure employed, the pros and cons of follow-up irradiation therapy and the final results.

Malignant lymphoma, although infrequent, presents signs and symptoms constant enough to constitute a syndrome. This tumor occurs most characteristically in elderly women, in whom there is rapid enlargement of the neck, with or without a preexisting goiter, accompanied by dyspnea, dysphagia, hoarseness, weakness and rapid loss of weight. Its prognosis is poor. The authors present a single case of hemangioendothelioma of the thyroid, confirming its rarity in the United States, although it is not uncommon in the goiter regions of Europe. In the Swiss goiter belt, 16.2 per cent of all malignant thyroid lesions are of this type. It had been suggested in a previous publication from the authors' institution that hemorrhage into the fetal adenoma may predispose to the development of this tumor. Although the prognosis for this tumor, as estimated from the available literature, is distinctly not good, the single patient whose case is reported in the article has remained clinically well after bilateral subtotal thyroidectomy.

Confirming the observations in numerous reports that thyroid carcinoma is frequently encountered in the young is the fact that in the present study 50 per cent of the thyroid carcinomas occurred in patients aged 45 or younger. A reconfirmation of the authors' observations is the previously emphasized point that nodular changes in the thyroid of the male are potentially more dangerous than they are in the female. The authors ascribe a portion of the excellent results they achieved with conservative surgical intervention to the fact that at their institution virgin thyroids are encountered in the majority of instances. This presents an important contrast to conditions in some thyroid clinics, where a great many patients are seen after having been subjected elsewhere to unsuccessful operations on the thyroid, with or without follow-up radiation therapy of one to four times. Roentgen therapy is regarded by the authors as relatively unimportant in the management of the less malignant goiter types and palliative, for the most part, in that of the more malignant forms. The role of radio-isotopes has not yet been fully explored, but in general the authors consider roentgen therapy the superior adjuvant therapy. They agree with Crile concerning the fallacy of radical *en bloc* dissection for thyroid carcinoma. On the basis of observation obtained from the injection of dyes, they are convinced that excision of all involved lymph drainage and contiguous structures is incompatible with life. A modified neck dissection, in which all involved resectable lymph nodes are removed, is, in their opinion, a realistic procedure.

Postoperatively they have treated patients with thyroid carcinoma by administering desiccated thyroid daily and are optimistic about this form of management. The present experience continues to justify their utilization of conservative surgical measures only, consisting largely of lobectomy and bilateral thyroidectomy as adequate treatment for the less malignant forms. They are similarly satisfied that the more malignant forms should be handled by total thyroidectomy, with a modified neck dissection and full use of postoperative adjuvant therapy.

THOMAS WILENSKY, M.D.

Clinical Use of Estrogen in Uterine Prolapse. Anderson, H. E., J.A.M.A. 168:173, 1958.

This study represents observations of 4 patients with pronounced uterine procidentia, treated nonsurgically with rather dramatic results: the reduction of uterine hernia after the oral and parenteral administration of estrogenic hormones.

No conclusions are drawn from the data on these 4 patients, who were given conjugated estrogens orally and parenterally, since they represent such a small clinical study. It is a striking clinical phenomenon, however, that in all 4 cases the uterine procidentia seems to have disappeared after the administration of estrogenic hormones. This may have been accidental in the patients studied, as no similar observation appears in the literature.

It is highly desirable that a much larger series be studied under similar clinical conditions and, in addition, an exhaustive physiologic laboratory endeavor be undertaken, in order that the action of estrogens on uterine supporting tissues be determined.

EDMUND LISSACK, M.D.

Parasacral Prostatectomy. Vallet, B. S., J. Urol. 81:315-321, 1959.

The author discusses the history of parasacral prostatectomy and describes his technic of operation. He briefly reviews the case histories of 7 patients operated on in this manner.

He was impressed with (1) the absence of shock in elderly patients treated by this approach; (2) the ease of positioning an obese patient, and (3) the superior exposure and accessibility of the prostate, the seminal vesicles, vesica and the base of the bladder. He noted the early return of urinary continence and the good healing of the wound, without any complications attributable to the osseous flap.

SHEPARD JEROME, M.D.

THE JOURNAL OF THE INTERNATIONAL COLLEGE OF SURGEONS

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International College of Surgeons
6-8 Rue de la Confederation
Geneva, Switzerland

A special committee has been appointed to evaluate the papers submitted for publication. The Journal publishes summaries in English, French, German, Spanish, Italian and Portuguese. Summaries of articles should be included in as many of these languages as possible.

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6-8 rue de la Confédération
Genéve (Suisse)

Un comité a été nommé pour l'examen des articles à paraître. Les auteurs sont priés de joindre à leur travail de brefs résumés en français, anglais, allemand, espagnol, italien et portugais si possible.

The following pages comprise

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the BULLETIN

of the

Journal

of the

International College of Surgeons

Schedule of Meetings

1960

Twelfth Biennial International Congress

INTERNATIONAL COLLEGE OF SURGEONS

Under the Auspices of
His Excellency

the President of the Republic of Italy

CONGRESS PRESIDENT
PROF. DR. PIETRO VALDONI

May 15-18

PLACE OF MEETINGS
Palazzo dei Ricevimenti e dei Congressi
(Palace of Receptions and Congresses)

Rome, Italy

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The Journal of the International College of Surgeons

Vol. 32, No. 6 SECTION II December, 1959

BULLETIN

Embodying Activities of the World Federation of General Surgeons and Surgical Specialists, Section News and Comments

Editor-in-Chief—MAX THOREK, M.D.
Associate Editor—PHILIP THOREK, M.D.
Consulting Editor—MORRIS FISHBEIN, M.D.
Assistant Editors—DOROTHY LANGLEY AND HELEN WEISS

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Schedule of Meetings

INTERNATIONAL COLLEGE OF SURGEONS

1960

May 12-13 Paris, France	French Section International College of Surgeons
May 15-18 Rome, Italy	Twelfth Biennial International Congress International College of Surgeons
May 21-23 Tel-Aviv and Jerusalem Israel	Post-Congress International Conference of Surgeons Israel Section International College of Surgeons
May 25-26 Tuscaloosa, Alabama	Alabama Surgical Section U. S. Section, International College of Surgeons
September 28 Winnipeg, Canada	Manitoba Surgical Section Canadian Section International College of Surgeons
October Quito, Ecuador	Ecuadorian Section International College of Surgeons

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V: 11-day tour—from Rome to Israel, including 3-day Post-Congress International Conference of Surgeons in Tel-Aviv and Jerusalem, and return to Rome.

Distinguished Lecturers

INTERNATIONAL SURGEONS' HALL OF FAME

1959-1960

Dr. Leon Unger
Chicago

Dr. Philip Lewin
Chicago

Dr. Jerome Head
Chicago

Dr. Walter Alvarez
Chicago

Dr. Morris Fishbein
Chicago

Dr. Manuel Lichtenstein
Chicago

Mr. Herman Henkle
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New York City

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Chicago

FOURTH LECTURE SERIES

1959-1960

School of the History of Surgery and Related Sciences
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OCTOBER 20, 1959 . . .	*"The History of Allergy"—Dr. Leon Unger, Associate Professor of Internal Medicine and Allergic Diseases, Northwestern University Medical School, Chicago*
NOVEMBER 24, 1959 . .	*"The History of Gastroenterology"—Dr. Walter Alvarez, Professor Emeritus, University of Minnesota; Consultant in Medicine, Mayo Clinic; Widely Syndicated Columnist, Chicago*
JANUARY 12, 1960 . . .	*"The Physician as a Book Collector—Notes on Famous Libraries"—Mr. Herman Henkle, Librarian of the John Crerar Library; Member of the Society of Medical History of Chicago*
FEBRUARY 2, 1960	*"Highlights of Orthopedic Surgery Through the Ages"—Dr. Philip Lewin, Professor Emeritus of Orthopedic Surgery, Northwestern University Medical School; Consultant in Bone and Joint Surgery, Cook County Hospital, Chicago*
FEBRUARY 23, 1960 . . .	*"The Bookplates of Physicians"—Dr. Morris Fishbein, Professor Emeritus, University of Chicago, University of Illinois; Contributing Editor of Postgraduate Medicine, Chicago*
MARCH 15, 1960	*"The History of Blood Transfusion"—Dr. Richard Lewisohn, Distinguished Contributor to the Field of Blood Banking; Consultant at Sinai Hospital, New York City*
APRIL 5, 1960	*"The History of Pulmonary Tuberculosis"—Dr. Jerome R. Head, Associate Professor of Surgery, Northwestern University Medical School; Former President of Suburban Cook County Tuberculosis Sanitarium Board, Chicago*
APRIL 26, 1960	*"Nicholas Senn and the Medical Center of Chicago"—Dr. Manuel Lichtenstein, Chairman, Department of Surgery, Cook County Hospital; Associate Professor, Northwestern University Medical School, Chicago*
MAY 10, 1960	*"Architects of Chicago Medicine"—Dr. Frederick Stenn, Author of Medical History Literature; Member of American Association of Medical History; Assistant Professor of Medicine, Northwestern University Medical School, Chicago*

In Memoriam

ROSS T. McINTIRE

M.D., F.A.C.S. (Hon.), F.I.C.S. (Hon.),
Vice-Admiral, M.C., U.S.N. Ret.
Executive Director, International College of Surgeons
1889-1959

It is my unbearably painful duty to announce that Ross T. McIntire, the distinguished and beloved Executive Director of the International College of Surgeons, died suddenly on the morning of Tuesday, December 8, 1959.

He is now at rest at Arlington National Cemetery, among his comrades of the service he loved and revered.

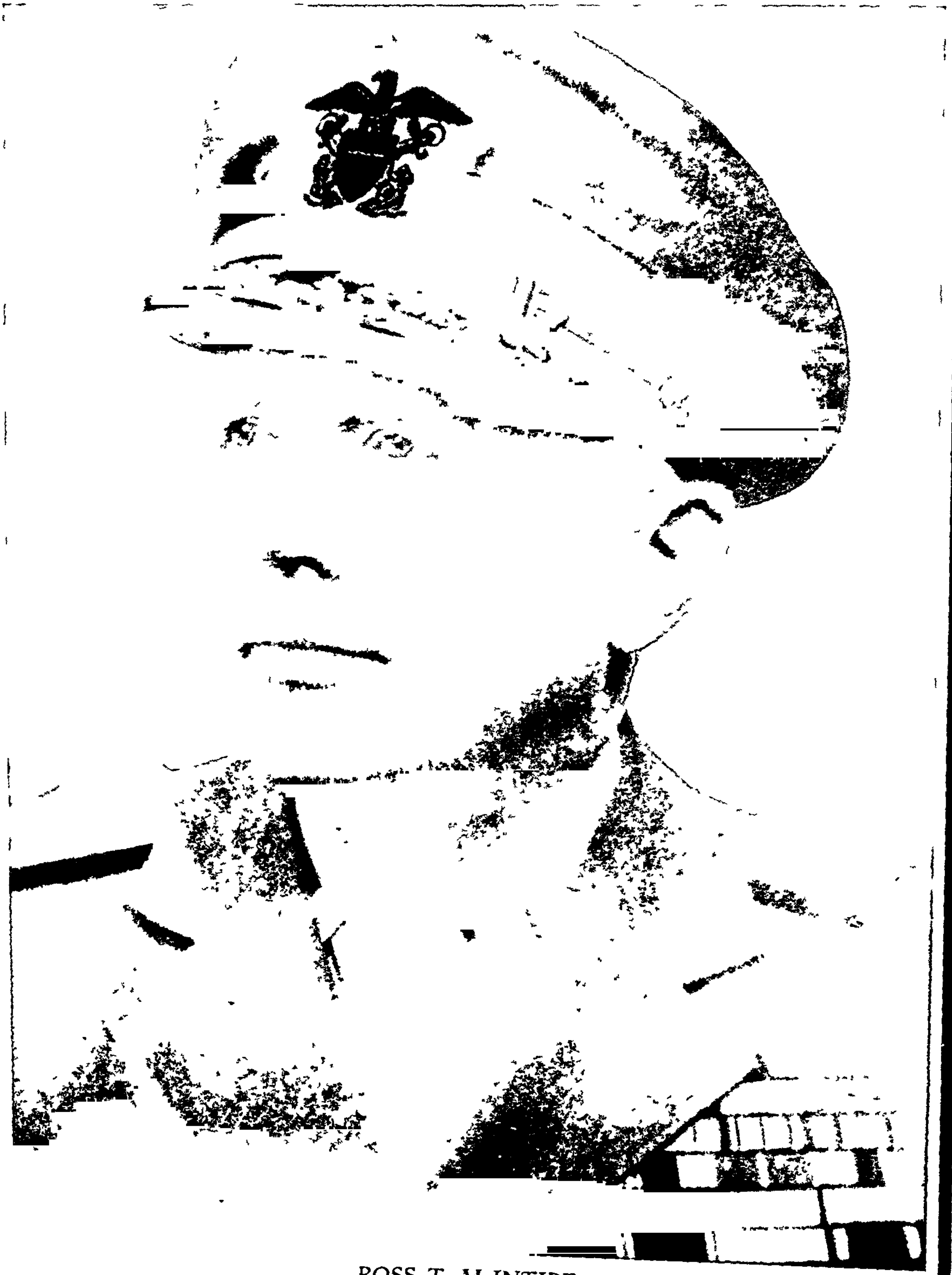
We at the College are plunged into mourning. Our one sustaining thought is that Ross T. McIntire, with his sense of duty and self-discipline, would have wished us to carry on the work that slipped from his grasp and bring it to completion.

Literally the last thing that Ross T. McIntire did on the day before his death was to discuss with me plans for the future of the College and to approve for publication his account of the Clinical Tour of Northern Europe as it appears in this issue.

The following pages, therefore, are to all of us the voice of our friend speaking of the last fine summer journey of his life.

Max Thorek

In Memoriam



ROSS T. McINTIRE
M.D., F.A.C.S. (Hon.), F.I.C.S. (Hon.)
Executive Director, International College of Surgeons
1889-1959

Section of a case in the Hermitage Art Museum in Leningrad, U.S.S.R., which contains surgical instruments used by Peter the Great. The Tsar had studied anatomy and surgery at Leiden in the Netherlands.

International College of Surgeons' Clinical Tour of Northern Europe

ROSS T. McINTIRE, M.D., F.A.C.S. (Hon.), F.I.C.S. (Hon.)
Executive Director, International College of Surgeons
CHICAGO, ILLINOIS

Ross T. McIntire, M.D., F.A.C.S., F.I.C.S., Executive Director of the International College of Surgeons, who acted as coordinator of medical activities on the Northern European Postgraduate Clinic Tour sponsored by the International College of Surgeons, presents this lucid and concise account of the journey.

It was a journey of discovery, not so much of geographical wonderlands, fascinating as these are, as of profoundly significant scientific, sociological and even political aspects of some of the world's key centers. Members of the tour were privileged, as few tourists ever can be, through contact with representative surgeons, to feel the pulse and observe the life process of nations far from our own and to note the differences and the similarities that mark the cultural outlooks and the scientific and technologic accomplishments of nine important European countries. The tour was a memorable experience, infinitely more rewarding in intellectual content, as well as social enjoyment, than could possibly have been anticipated.

M.T.

On the afternoon of July 23, 1959, a group of fifty-one surgeons and their families embarked in three planes for Amsterdam. Fortunately, all planes arrived within two hours of each other and so the entire party was able to attend the reception that was given by the officers of The Netherlands Surgical Section. This was held at the Carlton Hotel on the afternoon of July 24.

The Netherlands

The president of The Netherlands Section, **Dr. George Chapchal,** was absent from Holland on a professional assignment in Munich. Our party was met by the secretary of The Netherlands Section, **Dr. J. Glazenburg** and by **Prof. Albertus Kummer,** chief of the University Surgical Clinic. Dr. Glazenburg presented the ladies of our party with flowers, of which we were to see so much in the days that followed. As one travels through the Netherlands, he is constantly impressed by the

Dr. Ross T. McIntire, Mrs. Albertus Kummer and Prof. Kummer at the Netherlands' Great Dyke

love the people have for flowers, whether they are living in the city, on a houseboat or on a farm.

The reception and cocktail party given at the Carlton Hotel presented an opportunity for the Americans to meet many of the Netherlands doctors and their wives. Thus our stay, which was to continue through the following two days, began in a delightful fashion. Through the efforts of Prof. Kummer and Dr. Glazenburg, opportunities were provided for all of the surgeons to visit the various clinics of Amsterdam. **Prof. I. Boerema**, professor of surgery at the University of Amsterdam, was on holiday, but we were able to see the excellent work done in his service. Prof. Kummer gave a number of clinics, and members of our party had the experience of entering into lively discussions with him and his staff regarding the work that was being presented. A number of our party visited the Municipal Hospital, which has an excellent cancer center. The surgical director of this hospital, **Prof. Enst**, was most cordial and on two successive days presented surgical work of high excellence for our party. Those members of our group who are in the surgical specialties had the opportunity to see a great deal of work of interest to them in the various other hospitals.

In the late afternoon, July 25, the entire party went on a cruise through the canals and the harbor of Amsterdam. This was an interesting and delightful experience. We saw large numbers of houseboats tied up along the various canals and were told that they were occupied by young married couples who are unable to secure lodgings in apartment houses or homes. There is an urgent need for extensive house construction in the Netherlands.

On Sunday, the entire party, together with Prof. and Mrs. Kummer, toured northern Netherlands and visited the Great Dyke. This is one of the engineering marvels of the world. The following day, the surgeons visited the various clinics of the hospitals of Amsterdam. A breakfast meeting was held previous to this, at which Dr. Glazenburg made a talk. Our immediate past president of the United States Section, **Dr. Curtice Rosser**, responded. On Monday afternoon, we regretfully left Amsterdam. The hospitality tendered our entire party in the Netherlands was a good forerunner of what was to happen throughout the rest of our northern European visit.

Denmark

The flight to Copenhagen is a short one, but it was necessary to divide our party into two parts, as it is very difficult to secure fifty-one seats on any one plane. There must be some room for the citizens of the country itself! In Denmark it was also necessary to divide our party into two different hotels. However, the accommodations were very good and this proved to be no drawback. It was less easy in Denmark to make arrangements with various hospitals for visiting privileges, as we do not have a Section in that country. But we found the surgical profession exceedingly cordial, and through its courtesy it was made possible for our surgeons to visit the hospitals of Copenhagen and see some of the very fine work they are doing. I spent some time at the Orthopedic Hospital, discussing the subject of rehabilitation with members of the staff of that institution. **Dr. A. W. Mortensen,** who is the medical director of all rehabilitation in Denmark, was very friendly and invited me and many others in our party to see the work that is being carried out in their modern institutions.

In addition, I arranged a conference with the European director of the World Health Organization, **Dr. P. J. J. van de Calseyde.** He arranged a most interesting tour for our party. We spent two hours going through the headquarters and heard from Dr. van de Calseyde of the work that is being done in Europe and Africa by WHO. Dr. van de Calseyde was very interested in what the International College of Surgeons is doing throughout the world and believes that we, as an organization, can be very useful in the work that WHO has planned in the immediate future.

As in the Netherlands, sightseeing tours in Denmark are most interesting. This is the land of Hans Christian Andersen and while most of our party were adults, I am sure none of us had forgotten his wonderful fairy tales. Our sightseeing trip to the north of Denmark was very interesting and included Hamlet's Castle at Elsinore. We all had an opportunity to give ourselves a good cardiac test in climbing the many towers of the castles we visited.

It was common practice for us to contact the embassies in the various cities that we visited. The State Department had been good enough to alert the ambassadors of the various countries to the fact that we would visit them at a given time. **Dr. V. T. DeVault,** the medical director of the State Department, was also helpful in writing to the doctors attached to the embassies. In many instances this helped us greatly in seeing work in hospitals. **Ambassador Petersen** received all of the surgeons during our stay in Copenhagen. He gave us much useful information.

Norway

On July 30, we proceeded to Norway and found, as in the other countries, a most hospitable reception. Again, we were unable to house all of our party in the same hotel, but accommodations were good. One is constantly impressed with the cleanliness of the people in these northern countries.

Our schedule was so arranged in Norway that it was difficult to take advantage of the hospital facilities of Oslo. We arrived on a weekend. Our sightseeing plan permitted us to spend two and a half days in the spectacular fjord country on our way to Bergen. This journey, which was accomplished by train and bus, was most strenuous but truly delightful. The scenery is unsurpassed. We spent one night at the Fossli Hotel, a famous mountain resort, where the entire party occupied the hotel. Following a splendid dinner, the hotel provided an orchestra and it was very surprising to see how well many of our serious-minded surgeons took to dancing. It gave us a real opportunity to get to know one another.

The next day found us arriving in Bergen after a spectacular drive through the mountains and around the fjords. Our return trip to Oslo was accomplished by train, and after spending the night in Oslo, we embarked for Sweden.

Unfortunately, we were to miss seeing the Ambassadress, **Madame Frances E. Willis.** She was visiting in the northern part of Norway and did not return to Oslo in time for our call. The Counselor of the Embassy met our entire party and after a very interesting discussion in the Embassy auditorium, we had a conducted tour of one of the most modern of all the American embassies.

Sweden

Prof. Sten Axel Friberg

Our flight to Sweden was accomplished in two planes. Stockholm is a very lovely city and as modern as any of ours. Its hotels are modern and the service is excellent. Through the courtesy of **Prof. Sten Friberg,** we had the opportunity of seeing a great deal of the surgical work being done in the University hospitals. The Karolinska Institutet is modern in every way. Prof. Friberg is not only chancellor of the Institutet and of the medical school, but also professor of orthopedic surgery.

Another interesting feature is the advanced work in rehabilitation. I spent the better part of one morning with **Prof. Akerblad** in touring the new rehabilitation center that will be put into operation in early 1960. It is located on a lake, facing the summer palace of the King.

It was my pleasure to visit the Ambassador, who was extremely cordial, and who offered any help he could give during our stay. A number of us were unable to make the flight to Visby, capital of the Island of Gotland, where many of the famous ruins of a very early era are still evident. Visby is the only walled city remaining in Europe. Those of us who did not make this trip visited hospitals during the day.

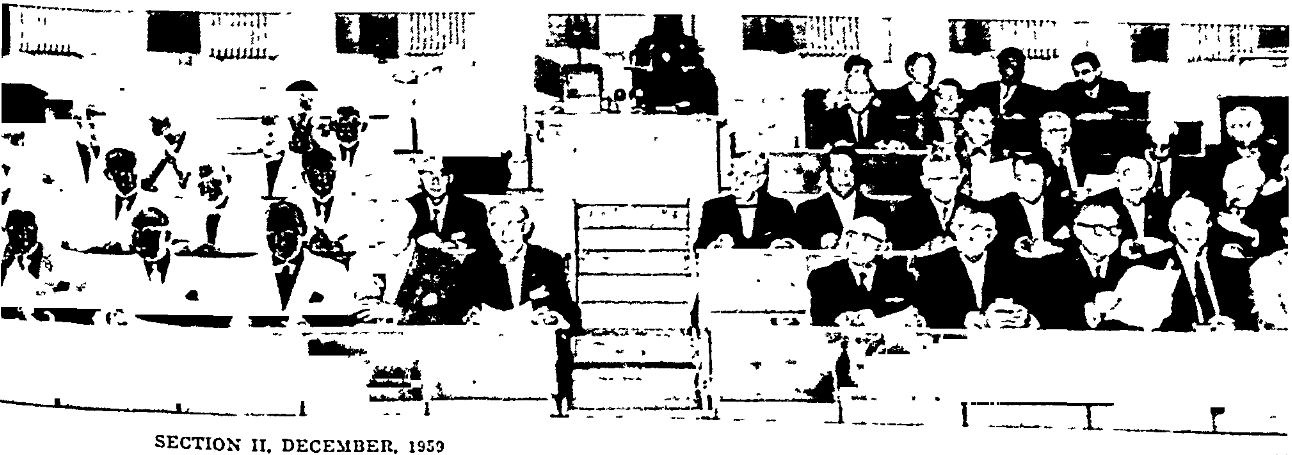
Finland

At right: Prof. Kalle Kallio with a visitor and Mrs. Kallio

Below: Prof. Juuso Kivimaki with Mrs. William Morrison of Columbus, Ohio

At right: Capable nurse at the Helsinki University Women's Hospital with group of surgeons

Below: Meeting of the Finland Section of the International College of Surgeons at the University of Helsinki



Prof. Juuso Kivimaki, Mrs. Hickerson, Dr. McIntire and the Hon. John D. Hickerson, United States Ambassador to Finland

The Ambassador's Garden Party

Finland was one of the highlights in this journey. We arrived from Stockholm on the afternoon of August 7 and were met by the officers of the Finnish Section. Prof. Juuso Kivimaki and Mrs. Kivimaki were present at the airport. The Naval Attache of our Embassy was also present and conveyed an invitation to the entire party to attend a reception and garden party at the American Embassy on Sunday, August 9.

The Finns are wonderful people and most hospitable, and the Finnish Section of the International College of Surgeons, with its enthusiasm, is simply splendid.

The hospitals are well administered and excellent work is performed in them. A Section meeting was held on August 8 and scientific papers were presented by members of our group, as well as by members of the Finnish Section. Following this meeting, Prof. Paavo Giddon Vara gave a reception, which all the members of the party attended. It was a delightful affair.

Mrs. George B. Callahan, of Waukegan, Illinois, with Prof. Paavo Giddon Vara and Mrs. Vara

Sunday morning was given over to visiting various clinics, and it was my privilege to accompany Prof. Kalle Kallio through his hospital and then to inspect the new rehabilitation center, which is just being completed. This will compare favorably with any in the world and Prof. Kallio will be its director.

In the afternoon, at five o'clock, Ambassador Hickerson and Mrs. Hickerson entertained at a garden party in the Embassy grounds. This included our entire party, the Embassy staff and the Finnish Section, altogether more than one hundred and fifty guests. There is no question about the high standing that Americans have in Finland. We should give more attention to such fine people and from time to time officers of the International College of Surgeons should visit our friends of the Finnish Section.

Russia

Scene in front of the Europeiskaja Hotel in Leningrad. The lady facing the camera is Mrs. Harold P. McDonald of Atlanta, Georgia

On the afternoon of August 10, we embarked in two Russian planes for Leningrad. We arrived in Leningrad after a flight of one and a quarter hours and were met there by a very efficient young woman of Intourist. She was to be our guide and mentor for the entire Russian stay. She proved to be a highly capable person and I am sure that many of the things we were able to do were because of her influence as a Russian official.

We landed at the new airport in Leningrad, which looks forward to the jet age. In fact we were the first party to land at this airport. Consequently, going through customs was a mere formality. The bus trip into Leningrad was of one hour's duration and the roads to the new airport still leave much to be desired. We saw a great deal of construction going on, and this was to be a pattern throughout the rest of the time in Russia.

Our hotel was the Europeiskaja. At one time this was a magnificent structure but its upkeep is not too good. The entire party was housed there and I know of no one who did not have a sitting room in addition to his bedroom. In some suites there were grand pianos. This was a reflection of the Czarist days. The service was of a dubious nature, but dining room service was excellent, and, if one liked Russian cooking, he had no complaints, for the food was plentiful.

Sightseeing in Leningrad was most interesting and, also, well planned. Peter the Great set out to make his city the jewel of Europe and he succeeded very well indeed. Catherine the Great added much to the luster of what Peter had done, but her great contribution was in constructing the Winter Palace, which is now The Hermitage Art Museum. I suppose that, except for the Louvre in Paris, there is no museum in the world that contains more original paintings of great merit than the Hermitage.

Our visit to the summer palace of Peter

the Great will long be remembered. More than a hundred fountains are to be seen in these great gardens. They are all being reconditioned and those around the central group are being done in gold leaf. This makes a very spectacular display and one wonders at the amount of money that is being spent in this way. The explanation when one asks about the expense of reconstructing all the old cathedrals and palaces is that this is for the people. In the days of the Czar, people could only look through the fences. Today, they go anywhere.

On the third day, we visited district hospitals, but the programs for these hospitals were not well arranged. We should have made our requests before leaving the United States. Even so, we were cordially received and were shown a great deal of the work in the hospitals. The one I visited had been completed but two years ago and looked at least ten years old. The hospital was clean, but the bed space was not what we are accustomed to. The comment was that as more construction is accomplished, more beds will be available. There is no question but that an attempt is being made to give the people good medical and hospital care, but my firm impression is that the Russians have a long way to go to arrive at the state of excellence that we have in this country.

Our experience in Leningrad caused me to make requests to see surgical work in Moscow, and this was accomplished.

Our impression of Leningrad was that of a once beautiful city that is now slowly going downhill. The streets are very wide. One rarely sees an automobile unless it is a taxicab or a government truck. The streets are kept clean at all times. The women are constantly sweeping the gutters and the streets and each night the main thoroughfares are washed down with hoses and brushes to insure cleanliness.

We attended the Russian ice ballet and found a large number of people present. The arena held some five thousand persons, and all seats were taken. We found the Russian people to be extremely cordial to all of us at this theatre, attempting to help us find our seats and also to give us directions. This was accomplished by sign language and vague attempts at each other's language.

Members of the tour with the operating surgeon and medical director of the Moscow Division Hospital in Leningrad

All through Russia, we were to find the average Russians friendly. I am sure they are very curious about us and are eager to know just how we live. The churches of Leningrad, with the exception of a very few, are being allowed to disintegrate. The cathedral of Peter the Great is being restored, but will be used as a museum. There are a few Orthodox Catholic cathedrals that hold services, but these are attended only by the older citizens.

There is a great deal of construction going on in Leningrad, for there is a real housing shortage. This was evident, also, in Moscow. My impression of the people was that they are all working. They seem to be in good physical condition. But certainly the clothing worn by both men and women is not up to the standard that our people expect. In discussing ways of life with our guides, who were well educated young women, there was always the insistence that everyone was happy—that everyone was satisfied.

If the Russian citizen can be kept in a reasonable state of ignorance as to how people live in democratic countries, perhaps this will go on. But I am sure that many Russian women who saw the various displays at the United States exhibit at Moscow must have very serious doubts as to whether they are getting the things that they should have. Today the government directs, completely, their way of life—what they do, what they wear and, mainly, what they think.

The Misses Irene Bagayeva, Tatiana Neserchaeva and Ludmilla Danilensnaya, Russian guides to the tour

On August 14, we flew to Moscow in one of the new Russian jets. This was about the same size as our 707 jet, without any of the plush equipment that our planes have. We flew to Moscow in one hour, at a speed of five hundred miles per hour. We were moved into buses immediately and taken to the Hotel Ukraina, which is one of the five skyscrapers in Moscow. Stalin approved this plan, which was to break the monotony of the flat-topped buildings of this city. It is understood there will be no more, however, because of the expense.

Our accommodations in Moscow were adequate. There are no staircases in this enormous building and one moves from floor to floor only by elevators. Sightseeing took up the first two days. The third day was given over to the hospitals and here we received the most cordial treatment. Actual surgery was seen in their fine clinics, and the professors of surgery of both the Botkin and First State Clinic gave us much of their time in discussing surgical matters. Had we known of the extreme cordiality, we could have spent at least one more day in their hospitals.

The Botkin Clinic is a tremendous institution of some forty-five hundred beds, and is divided into all the specialties. This great clinic was named after Botkin, who is one of the pioneers in Russian medicine and who did so much to promote good practice and research. There are few new buildings in Botkin, although some construction is going on at this time. One has a feeling that new equipment is badly needed. The hospital conditions are clean,

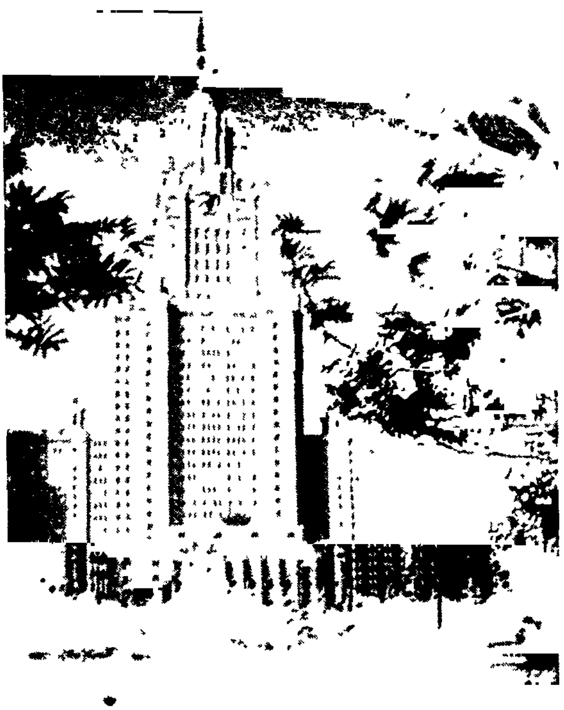
Leaving Leningrad in modern Russian jet

but beds in surgical wards are placed very closely together and do not conform to what we consider adequate space. One feature that is very noticeable is the lack of development of anesthesia. I am sure that they will overcome this shortcoming in the not too distant future. Practically all of the surgery that we saw was conducted under spinal anesthesia. At the First State Clinic, the thoracic surgery section is completely modern. Their techniques are comparable to ours and from all reports their results are excellent.

I was disappointed not to see some of the surgeons that I had known during World War II, but, as in a number of countries, some of these surgeons were on vacation, even those that the Russian Embassy had contacted for me previous to our visit. However, I cannot emphasize enough the cordiality that met us everywhere.

Sightseeing in Moscow is something to be remembered. Intourist provides a very interesting schedule and one that is completely adhered to. As in Leningrad, we were to see places of great interest. The Kremlin, with its intriguing buildings, and the great armor museum were visited. To my surprise, photographs were permitted everywhere with the exception of the interior of the museum itself. Our party was given the special privilege of visiting the mausoleum of Lenin and Stalin, even though at least ten thousand people were waiting in line to view the bodies of these two Soviet leaders. There is a constant pilgrimage by the people of Russia for this purpose.

Some of our lighter excursions were to the ballet, the puppet show and the circus. The most interesting, I believe, was the Ed Sullivan show, held in the theatre in Gorky Park. The Sullivan group, which was made up of outstanding American performers, lived in the Ukraina Hotel and ate in the dining room assigned to the two parties. It was a very interesting association, as we got to know all of the Ed Sullivan group. The entire party, together with our guides, went to Gorky Park to see the show. This was made possible only by Mr. Sullivan, who asked the management to set aside the neces-



Skyscraping tower of Moscow University

sary seats, which ran to more than fifty.

During the intermission, the young Russian woman who assisted Mr. Sullivan in the announcements gave a talk about the visiting American surgeons, stating our purpose in visiting Russia and something of our doings in Moscow. She then asked our group to stand and asked the audience, which was made up of fourteen thousand people, to give us applause. I have seen spontaneous demonstrations, but this was something new. Bedlam broke loose and we were cheered in every possible way—people rushing down and attempting to talk to us. It took about five minutes to restore order. Following the show, and on our long walk through the park, we were besieged by Russians, some of whom spoke a little English, wanting to talk to us and find out more about how we live. There is a great difference in the attitude of the Russian people and the line that is followed by the Soviet Government. It is my opinion that Ed Sullivan has done a great service in creating friendliness among the Russian people by this fine group that he took with him and their excellent presentations in both Moscow and Leningrad.

One needs more days than we had to see all that is worthwhile in Moscow. The University itself would take several days. Much can be said about the educational system of Russia, but it is not too difficult to understand why they are able to produce great numbers of qualified individuals who will make their life work in the various scientific fields. We should remember, however, that everything is directed by the government and that authority is concentrated in the hands of a very few men and, finally, in the hands of one man. Free people should never be placed in the position that these people find themselves in, even though they may say they are completely satisfied and that theirs is the right way to live.

Our party visited the United States exhibit and found it crowded to the utmost by Russians who were able to secure tickets. There was mixed feeling as to

Plan of the Botkin Clinic

just which of our presentations were believed. As there are very few private automobiles in Russia, the sight of thousands of automobiles being driven into our large manufacturing plants by workers, was labeled pure propaganda. One man stated that he believed these automobiles belonged to capitalists and this was purely set up to deceive the Russian people.

In the main, however, I think the Russians were impressed with what they saw of American living. My own feeling was that more practical demonstrations could have been presented of the way of life of average Americans, in the cities and especially on the farms. I felt that same lack in the United States exhibit at the Brussels Fair.

A word should be said at this time regarding the Sports Palace and arenas that are set up near the University. The accommodations are enormous and one can well understand that within the next decade Russia will be competing on even terms in all of the sports with all of the countries of the world.

Through an open window, surgical nurses smile *at the departing visitors*

Women doctors occupy important administrative positions in Russian hospitals and clinics

Visiting surgeons in front of First State Clinic in Moscow

Visit to the Botkin Clinic in Moscow: The tall man, third from the left in the back row, is Prof. Shabonov, professor of surgery and director of the Clinic; the one wearing a surgical cap is the deputy director, and the young woman is Miss Ludmilla Danilensnaya, who served as guide and interpreter to the group during its entire stay in Russia

As we prepared to leave Russia, an interesting situation occurred in that we could not exchange Russian money for American dollars. In my own case, I was given a receipt for the Russian money that I turned in and was told that it would be paid to me in American dollars, minus five per cent, at my Chicago bank. Upon leaving Russia, at the customs in Lvov, I presented my money statement, showing how much I had brought into Russia and how much I was taking out in express checks. I was asked for the receipt that I received in Moscow.

This they took, and I left Russia without any receipt for my Russia rubles.

I thought that I had seen the last of my rubles, but, to my surprise, my bank notified me about ten days after my return that a draft was at the bank, paying me in dollars for the rubles that I had turned in—minus the five per cent for handling costs. As one will see, there is a very tight control on finances in Russia.

Everywhere among surgeons, a cordial reception and a friendly farewell

Arrival in Vienna

A hearty greeting

Austria

Our flight from Moscow to Vienna, something over one thousand miles, was very pleasant and over beautiful country, the last hundred miles being up the valley of the Danube. Our planes were met at the airport by a delegation of the officers of the Austrian Section, headed by Prof. Leopold Schönbauer. We received a most cordial greeting, and while we were waiting for our baggage to clear customs we had a gemütlich coffee break.

Because of the size of our party, it was

Prof. Dr. Leopold Schönbauer, president of the Austrian Section, reading formal address of welcome at the airport necessary to divide into three hotels. All, however, were excellent and it was a great relief to all of us to be in this very gay country, where service and food were so fine.

On the evening of the first day, **Dr. Arthur Kline**, secretary of the American Medical Society of the University of Vienna, gave a fine reception in the rooms of the Society. This was well attended by members of the faculty of the University and, of course, by our entire party. At this time, all of our party registered for the various seminars that had been arranged at the University and we were to benefit greatly by them.

The following three days were taken up in attending the various clinics. We had an exceptional opportunity to see the work of the great Viennese professors, particularly **Profs. Schönbauer, Bohler** and **Fuchsig.**

On August 20, the Austrian Surgical Section held a joint meeting with the visiting American surgeons. Scientific papers were presented by members of each party. The Americans taking part in the program were: **Dr. Herbert Hayes, Dr. Curtice Rosser, Dr. David Katz** and I. The meeting had as its chairman, Prof. Schönbauer, president of the Austrian Section.

Prof. Dr. Tassilo Antoine, chief of the gynecological clinic of the University of Vienna

Following this meeting of the Section, the members of our party gave a reception and cocktail hour at the Hotel Bristol for our Austrian members and their families. This was a delightful occasion. **Dr.** and **Mrs. John Turner** of Atlanta, Georgia acted as host and hostess.

There is no more delightful city in the world than Vienna and every minute spent here is one that will long be remembered. It was with real regret that we found it necessary to continue on our journey.

Scientific session of the Austrian Section in honor of visiting surgeons

Germany

Prof. Dr. Kurt Boshamer

We were met in Munich at the airport by **Prof. and Mrs. Kurt Boshamer.** The Boshamers had driven from Wuppertal, which is some three hundred miles away, to be present with us during our Munich stay. Prof. Boshamer made it possible for our surgeons to visit Munich hospitals and we saw much of the work that is being done there.

In addition to the Boshamers, **Mr. and Mrs. Edwin Fawer** from Geneva, Switzerland, were present throughout our stay. Mr. Fawer is our European Executive Secretary and works under the direction of **Prof. John H. Oltramare,** who is the secretary of the European Federation. Prof. Oltramare joined us on the morning of August 22. During his stay, we were able to review many of the activities that are going on now in Europe. Prof. Oltramare is taking a keen interest in the Rome meeting and I know will be extremely helpful towards its success.

On Sunday, the entire party drove to the mountain resort of Garmisch and visited Oberammergau. I had the opportunity, also, to visit the rehabilitation center of

The Gothic spires of Munich

Dr. Max Lange. It is one of the most modern that I have seen anywhere. In fact, his section given over to hydrotherapy is something that any rehabilitation center in our own country could envy. Unfortunately, Dr. Lange was on vacation and I did not have the opportunity of talking with him.

France

On the following morning, we embarked for Paris and were met at the airport by **Dr. Marcel Thalheimer.** Dr. Thalheimer had made the arrangements for our surgeons to see work in the Boucicault Hospital. During the morning, I had the opportunity of visiting the blood center of this hospital and reviewed, with its director, the work that is being done in France.

Following our morning at Dr. Thalheimer's hospital, the entire party journeyed to **Dr. Pierre J. Viala's** *Clinique de l'Alma,* where a luncheon was held in the room that is furnished for the International College of Surgeons as headquarters in France. As Dr. and Mrs. Viala were not in France—they were in Mexico at the time—their daughter, who is a second-year medical student, acted as hostess. Not only is she a charming young lady, but a very pretty one as well. I am sure she will succeed in the medical profession. We expect to have many of our members stop in at the International College of Surgeons' headquarters in Paris when they are visiting this lovely city.

The rest of the time in Paris was given over to the usual things and on the evening of July 26, we embarked for Amsterdam, where we trans-shipped by KLM for New York City.

ATTEND

Twelfth Biennial International Congress
INTERNATIONAL COLLEGE OF SURGEONS

May 15-18, 1960 Rome, Italy

And Combine It With One of Five
International College of Surgeons European Tours

Comments by the Founder

EMISSARIES OF GOOD WILL

Dr. Max Thorek

The International College of Surgeons was most fortunate in its 1959 tours—the midsummer tour of northern Europe and the autumn around - the - world tour. The European tour had as its scientific coordinator **Dr. Ross T. McIntire**, executive director of the College, and the globe-circling tour was led by **Dr. Edward L. Compere**, president of the United States Section. Dr. McIntire's account of his group's journey through the Netherlands, Denmark, Norway, Sweden, Finland, Russia, Austria, Germany and France is the leading article in this issue of the *Bulletin.* Dr. Compere's will appear shortly. It will tell the story of a surgical clinic tour that proceeded to Hawaii, continued around the world through Japan, Hong Kong, Thailand, India, Ceylon, Egypt, Lebanon, Syria, Jordan, Turkey and Greece, and then returned to the United States.

There is fascination for us in all these lands I have named. Even an ordinary trip through them is no doubt interesting. But the tours of the International College of Surgeons are something special.

The friendly companionship of congenial people with a mutuality of interest is of course beyond all price. There also is the sense of confidence that the traveling arrangements have all been worked out carefully, and that such minor emergencies as may arise are competently dealt with by the official tour directors who accompany each group. And there is the opportunity to participate in the work and the life of the people whose countries are part of the tour.

Fellows of the College, wherever they may be, do not find themselves strangers in a strange land. They are guests of honor among friends. They are welcomed; they are entertained. The surgeons are shown what every surgeon most wants to see—how the other fellow does it—and they are given an opportunity to expound how they themselves do it and to discuss the pros and cons quite as at their own home-town surgical meetings, except that abroad the points of view may diverge more sharply and offer a challenge that is more radical and exciting than that presented by the familiar attitudes of fellow practitioners back home.

Even the ladies have an opportunity to meet their foreign counterparts, the wives of surgeons, many of whom speak English or other languages in which they can to some satisfactory extent communicate. They act as sightseeing guides, they help to avoid the pitfalls of shopping in unfamiliar places with uncertain values and strange currencies, and frequently they are able to open their homes to their visitors.

Every clinical tour offered by the International College of Surgeons is an extraordinary experience, socially and professionally.

But when the tour's scientific aspects are coordinated by a Ross T. McIntire or an Edward L. Compere, something else is added which cannot be computed even with the aid of cybernetics.

They and other men of like stature who

are members of our tours are preceded, wherever they go, by their names, as it were, and their reputations. They have friends, personal or professional, whose courtesy and kindness embrace *their friends*, and to them doors are opened which would not otherwise yield to any *open sesame*, wishful or contrived. Far be it from us to be name-droppers. But read Admiral McIntire's log carefully. You will find it factual and restrained. (He is a master of understatement!) And if you are like me you will wish that you had had the opportunity of being with him on that voyage he piloted of social and scientific exploration in countries of northern Europe. Some of these countries are almost a second home to us, intellectually if not in fact, but some, sundered from contact with us years ago, are a *terra incognita* and therefore understandable only when special means for observation and communication are provided. These special means were provided, and the members of the tour were in a position to see for themselves what there was to be seen and to base their judgment and evaluation on observable data.

For Dr. Compere and his friends special doors, too, were opened. I have letters from officers of Sections which Dr. Compere and his party visited which speak in glowing terms of the privilege of entertaining these distinguished surgeons and their delightful families.

Which brings me to my last point. It is not always only what we receive in enlightenment and pleasure that is important, even on a tour, which, let us be honest, costs a lot of money and consumes a lot of time. It is also important to leave with our hosts a gift of our good will—of understanding, of offering, in our turn, a stimulating contrast, and, above all, of appreciation.

No Americans, say I surely and proudly, are more able and more representative ambassadors to our neighbors—and all the world's millions are neighbors now—than are Ross McIntire, Ed Compere and the fine men and women who were with them on these hegiras to the unfamiliar.

The coming year, as years have a habit of doing, will bring us fresh opportunities for valuable clinical tours.

The 1960 Around-the-World Tour will have as its scientific coordinator **Dr. Harry E. Bacon**, of Philadelphia, currently president-elect of the United States Section of the College. So the line of excellence and distinction in the leadership of our tours continues unbroken. Again, a man who is representative of the best in surgery, in the tradition of American life and in the fellowship of the International College of Surgeons, will be the official spokesman for us all around the globe. There could not have been a happier choice. Those who are to accompany Harry Bacon are indeed to be congratulated, for with him the success of the tour is assured.

The Twelfth Biennial Congress of the International College of Surgeons in Rome, May 15-18, is in itself a surgical Mecca. Preparations now afoot indicate it will have the dimensions of greatness.

Preceding it and following it there will be definitely scheduled national congresses and any number of informal meetings and consultations with Fellows in many countries. Tours which encompass all these are being organized. They will be as carefully planned as were our 1959 tours and scientifically coordinated by leading Fellows of the College.

Before Rome, the French Section will hold in Paris, May 12-13, a full-fledged National Congress, to which it heartily welcomes the attendance and the participation of all Fellows of the College. And here, sagely, I say nothing of the attraction of Paris in the springtime, having myself been there with a lady—my beloved Fim—when her mind was on hats and perfumes and I was drawn to bookstalls and the *atelieres* of artists and not of dressmakers. So I will say only that the French Section is organizing a Congress of worth and importance and is ready to welcome non-nationals with characteristic French warmth and hospitality.

And after the Congress there is the invitation of the State of Israel, through its Ministry of Health, and of the Israel Section of the International College of Surgeons to share in the International Conference of Surgeons to be held in Tel Aviv and Jerusalem, May 21-23, and to tour, under their auspices, that new-old-land. Thus again we may, on an International College of Surgeons Tour, encounter under exceptionally favorable circumstances an unfamiliar society, and observe an outpost of Western influence in science and surgery, as well as in democracy, in the important region of the Middle East.

The International College of Surgeons is anxious to provide an opportunity for its Fellows to participate in these Congresses, in Paris, in Israel, and, especially, at the great Congress in Rome. To that end the Secretariat invites all Fellows who wish to present papers to please communicate with the College.

Surgeons living in Canada will please communicate with **Dr. Lyon H. Appleby** or **Dr. E. N. C. McAmmond**, both of Vancouver, *British Columbia.*

Those living in Europe, Asia or Africa please address **Prof. Dr. Giuseppe Bendandi**, Policlinico Umberto 1, Rome, Italy.

Those living in the United States or South America, please write me, **Dr. Max Thorek**, 850 West Irving Park Road, Chicago 13, Illinois.

In the United States, aiding me in the selection of scientific papers are **Dr. Horace E. Ayers**, F.A.C.S., F.I.C.S. (Hon.), of New York City, regent for the College in the state of New York; **Dr. Harold H. Sage**, F.A.C.S., F.I.C.S., D.A.B., of New York City, and others.

Dr. Edward L. Compere, of Chicago, president of the United States Section, is chairman of the symposium on sports injuries.

Dr. Harry E. Bacon, president-elect of the United States Section, is chairman of the colo-proctologic symposium and specialty program.

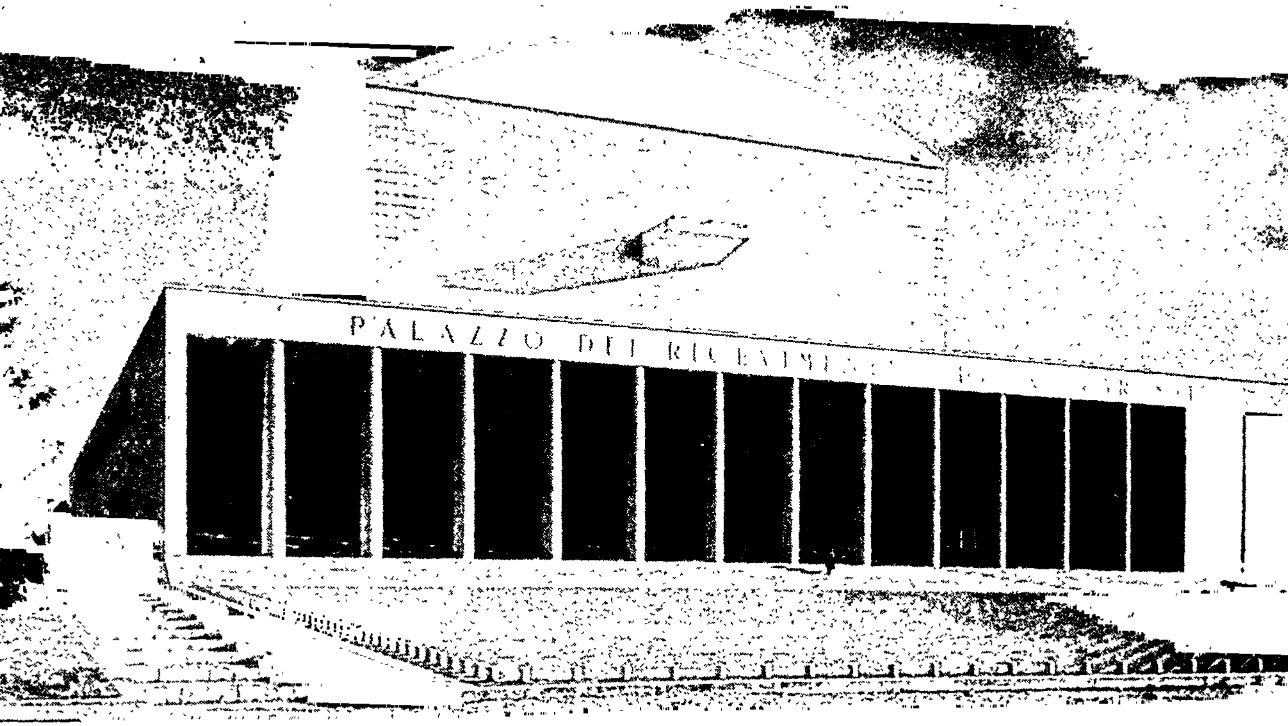
Dr. August F. Daro, of Chicago, is organizing the obstetric and gynecologic program for the United States participants, and **Dr. Arthur Neal Owens**, of New Orleans, is doing the same for the plastic surgeons.

All these and others who are coordinating their efforts to present in Rome an incomparable International Congress are veteran organizers of programs. I am confident that together we will see to it that the Congress in Rome will be a major scientific event in our time.

Max Thorek

International House of Delegates to Convene

The Biennial Meeting of the House of Delegates of the International College of Surgeons will be held in Rome, Italy, on Saturday, May 14, 1960, at 3 p.m., the day preceding the opening of the Rome Congress. The meeting will be held in the large ballroom called the Winter Garden of the Hotel Excelsior.



Palazzo dei Congressi—Esposizione Universale di Roma (E.U.R.), Viale Cristoforo Colombo, Rome
Congress Meeting Place

Twelfth Biennial International Congress

INTERNATIONAL COLLEGE OF SURGEONS

May 15-18, 1960 **Rome, Italy**

Now that winter is surely here, there can be no denying that spring is only several blizzards away. These snowbound evenings are perfect for one thing at least—making plans for attending the Twelfth Biennial International Congress, come next May 15-18, in Rome, Italy.

Airmail letters and cables cross and recross the Atlantic daily between the secretariat of the College, the secretariat of the European Federation and the secretariats of the various European Sections, particularly the Italian Section, concerning the program for the Congress. Certainly the Congress is attracting the participation of eminent surgeons from all over the world.

Plans are being formulated for symposiums and panel discussions with a breadth of view on the potentials of surgery never before attempted at a surgical congress. Attendance promises to be representative of the College's membership and to set a high record of excellence.

Preliminary Congress Program

May 15-18, 1960

Rome, Italy

Official Languages

Official Congress languages are: English, French, German, Italian and Spanish. Simultaneous translation will be made in these five languages.

Themes

The Congress comprises a General Assembly and fourteen sections of surgical specialties; in addition, one section will be dedicated to surgical nurses. During the General Assembly, four symposiums will be developed, and there will be a symposium in each specialty section. Besides the forum for free communications, a lecture on a general theme for each one of the fourteen specialties will be presented. Equally, each specialty section includes, besides the symposium, a forum for free communications.

The General Assembly includes the following symposiums:

Portal Hypertension
Moderator: Prof. P. Valdoni, Rome
Hepatic Resection
Moderator: Prof. V. Pettinari, Padua
Biliary and Gastrointestinal Anastomosis
Moderator: Prof. G. Oselladore, Milan
Ulcerous Colitis
Moderator: Prof. G. Placitelli, Bologna

The following are the specialty symposiums:

Anesthesiology—*The role of Fluothane (Alothane) in modern anesthesiology*
Colon and Rectal Surgery
Moderator: Dr. H. E. Bacon, Philadelphia
Heart Surgery—*Simple or complicated septal atrial defect*
Moderator: Prof. A. M. Dogliotti, Turin
Neurosurgery—*Third ventricle tumors*
Moderator: Prof. P. Frugoni, Padua
Obstetrics and Gynecology—*The treatment of postoperative urologic complications in gynecology*
Moderator: Prof. L. Cattaneo, Rome
Ophthalmology—*Present knowledge of the etiopathogenesis and postoperative treatment after removal of the anterior chamber*
Moderator: Prof. G. B. Bietti, Rome
Orthopedics and Traumatology — *Surgical treatment of arthrosis of the hip (indications and technic)*
Moderator: Prof. C. Marino Zuco, Rome
Otolaryngology—*Surgery for dizziness*
Moderator: Prof. G. Ferreri, Rome
Plastic Surgery—*Clinical pathology of harelip and cleft palate*
Moderator: Prof. G. Sanvenero Rosselli, Milan
Pediatric Surgery—*The megacolon*
Moderator: Prof. P. Romualdi, Rome
Rehabilitation—*Surgical possibilities in rehabilitation*
Sports Injuries—*Athletic injuries*
Moderator: Dr. E. L. Compere, Chicago
Thoracic Surgery—*Pathology and clinic of bronchiectases*
Moderator: Prof. G. Ceccarelli, Padua
Urology—*Medical and surgical treatment of the cancer of the prostate*
Moderator: Prof. E. Mingazzini, Rome
Surgical Nurses—*Immediate postoperative care: Principles, means and methods*
Moderator: Miss M. Caruana, Naples

Members

Registration fees and rules are given on application blanks. Those who have regularly completed their registration and transmitted the Congress fee receive:

a) the membership card which entitles them to participate in all Congress activities (inauguration, scientific sessions, banquet and official occasions);

b) the final program and the volume containing the abstracts of lectures, symposiums and communications presented at the Congress.

Associate members

Every member may enroll one or more relatives as associate members. They will also receive a card entitling them to attend the official functions and scientific sessions as auditors.

Lectures and Symposiums

Leading surgeons from all over the world will present their lectures upon invitation of the organizing committee. The scientific program includes symposiums on special topics and speakers will be invited by the organizing committee. The time allowed for the presentation of each lecture, projections included, will be twenty minutes. The time for discussion, following the symposiums, will be strictly limited to three minutes for each speaker.

Communications

Congress members who wish to present a communication on a free theme should apply to their chairmen. The text of each paper should be as concise as possible, limiting it to the essential points. The time allowance for each paper, projections included, will be ten minutes.

Original Texts and Abstracts of Lectures, Symposiums and Communications

An English abstract of the lectures, symposiums and communications, not exceeding two hundred words, should be submitted to the Secretariat of the Congress by February 15, 1960. Abstracts arriving after this date cannot be included in the special volume published before the Congress. To facilitate the simultaneous translation service, members are invited to send four copies of the complete text of their papers by March 31, 1960.

Scientific Exhibits

On the first floor of the reception hall of the Congress building, scientific exhibits will be displayed. *Ad hoc* panels will allow the display of diagrams, photographs, etc., and tables will be at the disposal of the exhibitors. For special requirements (illumination of slides, various materials) the exhibitor should apply to the Secretary of the Congress in time to permit the necessary arrangements within feasible limits. Members wishing to display the results of their scientific activity should apply to the Secretariat and send a description of the exhibit in five copies and a design showing the arrangement of the material. Space and illumination are free of charge, whereas the exhibitor has to bear the cost for the arrangement of the material and for the equipment especially requested.

The material must arrive five days before the Congress at the Congress Building of the E.U.R.

Films

Members wishing to present a film of surgical interest should apply to the Secretariat of the Congress prior to March 15, 1960. The Organizing Committee provides projectors suitable for the type of films indicated. Inflammable films will not be accepted. Skilled technicians will handle the projection of films. The Organizing Committee, however, declines any responsibility for eventual damages which might occur to the films. Publicity or commercial films may be admitted at the discretion of the Organizing Committee. upon special agreement.

Surgical Session of the Fifth International Congress of the Medical Film

The Surgical Session of the Fifth International Congress of the Medical Film will take place in connection with the Congress. The other sessions will be held in Tokyo, Japan.

On May 15 and 16 the twelve best films will be selected by a commission during the course of a showing of these films in a special hall. Films exclusively of sixteen mm size, color/sound (professional), of a maximum duration of thirty minutes and produced after January 1, 1959, will be shown. Publicity films are excluded.

Films not complying with these conditions will be shown in another hall. The twelve selected films will be shown on May 17 and 18 before the General Assembly of the Congress. Members of the Assembly will act as jury and select the best film, which will be awarded the First Prize of the Surgical Film 1960.

Social Affairs and Sightseeing

Besides an official banquet there will be official parties and sightseeing tours. A special ladies' program includes numerous events.

Industrial Exhibition

On the premises of the Congress building an exhibition of surgical apparatus and instruments as well as pharmaceutical products will be arranged by important industries of international reputation. Firms wishing to participate in the exhibition are invited to specify their requests to the Secretariat of the Congress by February 1, 1960.

Hotel Reservation

Because of the large number of tourists expected for the Olympic Games, requests for hotel reservations should be made as soon as possible.

Various Services

In the Congress Building the following services will be at the disposal of Congress members: the Secretariat of the Congress, information office, post office, telegraph, telephone for inland and international communications, banking and exchange facilities and the touring office of the C.I.T. Temperature in Rome during May is: maximum: 23.1°C; minimum: 13.4°C.

INVITATION TO
POST-CONGRESS INTERNATIONAL CONFERENCE OF SURGEONS

Jerusalem, Israel

Dr. Max Thorek,
Secretary-General,
International College of Surgeons,
Chicago, Illinois.

Dear Dr. Thorek,

I have the honor, on behalf of my government, to extend to the International College of Surgeons an invitation to attend, at the conclusion of the International Congress at Rome, a Post-Congress International Conference of Surgeons in Israel, May 21-23, 1960.

The Ministry of Health, the Israel Section of the International College of Surgeons and the entire medical profession of Israel anticipate with pleasure the visit of members of the College and are eager to render every assistance possible to assure the success of the Conference.

Would you kindly assure your colleagues of the sincere welcome that awaits them in Israel? I look forward to meeting many of them during their visit, and in the meantime would ask you to convey to them my warmest personal regards.

Yours sincerely,

Israel Barzilai
Minister of Health

IN SIGHT FOR '60

ROME!

May 15-18

12th Biennial World Congress of I.C.S.
4 outstanding inclusive tours with rates beginning at $1260.00

also

Special Meetings

PARIS

May 12-13

Scheduled meeting of French Section of the I.C.S.—preceding the Rome Congress.

TEL AVIV — JERUSALEM

May 21-23

Special 11 day Israel tour departing Rome May 19th. Tour rates $670.00 to $775.00.

To reserve for yourself and party, write to International Travel Service, Inc., official travel representative for the International College of Surgeons.

INTERNATIONAL TRAVEL Service INC.

"in the Palmer House"

119 South State Street **Chicago 3, Illinois** **Financial 6-3750**

United States Section

THE PRESIDENT'S MESSAGE

Address to the Board of Regents

Dr. Edward L. Compere

The regents and vice-regents constitute the most vitally important body within the framework of the United States Section of the International College of Surgeons. The Section depends upon them to establish contact with the most able and ethical surgeons in their states and to find means of conveying to these surgeons pertinent information about the College.

It is the regents and vice-regents who are in a position to make it known to their fellow surgeons in their own communities that in the sixty-four countries in which it has Sections or groups of members, the International College of Surgeons is helping to improve the surgical care of the people, and, furthermore, that the good fellowship engendered between Sections, together with the encouragement and help extended to our members in each of these countries, is helping to create better understanding and good will between nations. Testimony to that effect has been given by Dr. Virgil De Vault, medical director for the United States Department of State, whose duties have taken him to almost every country on the face of the earth.

We must depend upon the regents and vice-regents to investigate the character, the surgical skill and the general standing of candidates for membership who live and practice in their various communities. There is no other way in which we at the central office in Chicago can ascertain the facts about these candidates. If the regents and vice-regents help us to the best of their ability, we will make very few mistakes as we try to decide which candidates are worthy of Fellowship in the College.

With the permission of the executive council, I have appointed three new regents and a hundred and twenty-nine vice-regents during the year just past. It will be necessary to replace a few other regents who are not well or are too busy to carry out their duties, and I hope to add more vice-regents until there is at least one in each section of every state.

The regents and vice-regents who are truly interested in the College and are devoted to it are the hope of the International College of Surgeons in the years that lie ahead.

Edward L. Compere

This is the text of the remarks made by Dr. Edward L. Compere, president of the United States Section of the International College of Surgeons, at the meeting of the Board of Regents of the Section on the afternoon of Saturday, September 12, 1959, at the College Home, 1516 Lake Shore Drive, Chicago.

Manuscript Awards for 1960

DIVISION OF OBSTETRICS AND GYNECOLOGY

International College of Surgeons

The Division of Obstetrics and Gynecology of the International College of Surgeons is pleased to announce its third annual competition for two awards to be given the authors of manuscripts selected by the Prize Committee of the Section. The first award will be five hundred dollars and the second three hundred dollars.

The rules of the competition are as follows:

Fellows of the International College of Surgeons are not eligible. Contestants must be (a) interns, residents, or graduate students, in the field of obstetrics and gynecology. Contestants must hold the degree of Doctor of Medicine from an accredited college of medicine.

Manuscripts are to represent only original work by the author without co-authorship. Manuscripts are not to exceed five thousand words. They should be typewritten on one side of each sheet only, double-spaced and with generous margins. Illustrations, if indicated, should accompany the manuscript. Original drawings or glossy photographic prints should be numbered on the back and legends for the illustrations should be provided. A mark of identification, or the author's *nom de plume*, should be penciled on the back of each illustration. Tables should be numbered and submitted on separate sheets. References should be listed at the end of the article and numbered, naming the author of the reference, the periodical in which it appeared, the volume of the periodical, the pages on which the article was printed and the year of publication.

To conceal the identity of the author, **manuscripts must be submitted under an assumed name.** The manuscript must be accompanied by a sealed envelope, containing a card bearing the assumed name of the author, the title of the manuscript and the true name of the author, his degrees, titles and address. An original and three copies of each manuscript (carbon, photostatic, mimeographic or other) and illustrations must be submitted on or before June 1, 1960, to:

Dr. Harvey A. Gollin
Secretary of the Prize Committee
55 East Washington Street
Chicago 2, Illinois

The Committee on Prizes, under its rules and regulations, will judge the merits of each manuscript, select the two winners of the awards and submit the names and addresses of the authors to the Chairman of the Division of Obstetrics and Gynecology before August 10, 1960. The Chairman of the Division will notify the winning authors. If no submitted manuscript is deemed acceptable by the committee on prizes, no awards will be made.

The two successful contestants will be asked to appear in person to participate in the regular scientific program of the Division on Obstetrics and Gynecology at the Annual Congress of the United States and Canadian Sections of the International College of Surgeons in 1960. Personal expenses incurred by such participation must be borne by the winners. The awards will be made in cash by the Chairman of the Division during the course of the 1960 Congress.

The Secretary of the Committee on Prizes will return the unsuccessful contributions to their respective authors. Manuscripts which, in the opinion of the Committee, are entitled to the awards will become the property of the Division on Obstetrics and Gynecology for publication in the official *Journal of the International College of Surgeons*. If the editors of the Journal reject them for publication, the authors may submit them to any periodical journal of their choice.

J. P. Greenhill, M.D., Chairman
DIVISION OF OBSTETRICS AND GYNECOLOGY
CHICAGO, ILLINOIS

August H. Daro, M.D., Secretary
DIVISION OF OBSTETRICS AND GYNECOLOGY
CHICAGO, ILLINOIS

Raymond J. Pieri, M.D., Chairman
COMMITTEE ON PRIZES
SYRACUSE, NEW YORK

Harvey A. Gollin, M.D., Secretary
COMMITTEE ON PRIZES
CHICAGO, ILLINOIS

News Briefs

Dr. Alexander Brunschwig
F.A.C.S., F.I.C.S. (Hon.)

DR. ALEXANDER BRUNSCHWIG HONORED IN PRESENCE OF DE GAULLE

Dr. Alexander Brunschwig, clinical professor of surgery at Cornell University Medical College, attending surgeon at Memorial Hospital for the Treatment of Cancer and Allied Diseases, New York City, and vice-president of the International College of Surgeons, received an honorary degree from the University of Strasbourg this fall in the presence of Charles De Gaulle, president of France.

DR. ARKELL M. VAUGHN CHOSEN PRESIDENT-ELECT OF MISSISSIPPI VALLEY MEDICAL SOCIETY

Dr. Arkell M. Vaughn, F.A.C.S., F.I.C.S., D.A.B., of Chicago, has been chosen president-elect of the Mississippi Valley Medical Society. Dr. Vaughn, clinical professor at the Stritch School of Medicine of Loyola University and professor of surgery at the Cook County Graduate School of Medicine, senior staff surgeon at Mercy Hospital, attending surgeon at Cook County Hospital, and consulting surgeon at Provident, South Shore, South Chicago Community and Municipal Contagious Disease Hospitals, received the Mississippi Valley Medical Society's distinguished service award in 1958.

CLARIFICATION OF INSURANCE COVERAGE

An article has recently been published in the *AMA News* regarding payment of a Malpractice Insurance claim by Lloyd's, London, and British Commercial Insurance Company. It has created a doubt in the minds of some doctors as to their form of coverage under the ICS Malpractice Insurance Plan. The ICS Plan is underwritten entirely by Lloyd's, London.

The British Commercial Insurance Company was an independent organization exclusive of Lloyd's, which wrote its own professional liability insurance and, to our knowledge, is not operating at the present time.

Lloyd's has no connection whatsoever with the British Commercial Insurance Company.

Lloyd's, however, insured many doctors for excess coverage over and above that which they held in the British Commercial, and Lloyd's is responsible for payment of claims on their own coverage only.

The ICS Malpractice Insurance Plan, which is underwritten through Lloyd's, London, provides coverage up to $200,000/$600,000 Limits of Liability for individual doctors and for partnerships.

The Plan has been operating successfully for the past four years. Complete information may be received by writing to the Administrator, John L. Krause and Associates, 1576 Sherman Avenue, Evanston. Illinois.

Woman's Auxiliary

THE PRESIDENT'S MESSAGE

Farewell and Welcome

Mrs. Park Niceley

It is with a pang of regret we see several of our splendid board members retiring, for these ladies have each played an important part in shaping our Auxiliary into the strong organization it is today. I know I express the appreciation of the entire Auxiliary to these members. We thank them for their contribution of time and effort during their period of service on the board.

To our new members of the board of 1959-60, we extend a hearty welcome into active participation.

Recently the Tennessee Valley Medical Assembly was held in Chattanooga, and it had, affiliated with it, the meeting of the Tennessee Section of the International College of Surgeons, with **Dr. Guy Francis** as chairman. I had the delight of seeing and being with the International College of Surgeons Auxiliary members of Chattanooga. It is here that we have the largest number of members in the state, and a big orchid goes to the work of the local membership chairman, **Mrs. J. Frank Hobbs.** A new board member, **Mrs. J. Grafton Love,** was also present. She is the wife of **Dr. J. Grafton Love,** F.I.C.S., Rochester, Minnesota, who was a guest speaker at the Assembly. I know Mrs. Love joins me in saying the genuine hospitality of the Chattanoogans will be long remembered.

As we approach the holiday season, I want to wish one and all a Merry Christmas and a Happy New Year, and to share with you my favorite verse, Isaiah 9:6:

> *For unto us a Child is born, unto us a Son is given: And the government shall be upon his shoulders: And his name shall be called Wonderful, Counsellor, The Mighty God, The Everlasting Father, The Prince of Peace.*

Virginia Whisman Niceley

I am interested in furthering the program of the Auxiliary to the International College of Surgeons. Enclosed is my check (*$10.00 per member*) *covering membership(s) for the following:*

NAME:..

ADDRESS:...

Make check payable to The Woman's Auxiliary, United States Section, International College of Surgeons, 1516 Lake Shore Drive, Chicago 10, Illinois.

Section News

ARGENTINA

Third of the Series of Letters Sent by the Officers to Members of the Section

Buenos Aires, agosto de 1959.

Estimado colega:

Las cartas enviadas en junio y julio han provocado un interesante intercambio de ideas especialmente con los colegas del interior.

Un gran número solicitó la elaboración de los diplomas que los acredita como Fellows del International College of Surgeons.

(Here followed an invitation to the Congress of the Brazilian Section held October 18-24 in Poços de Caldas.)

El Journal of the International College of Surgeons ha publicado durante el semestre Enero-Junio 1959, los siguientes trabajos de autores argentinos.

Dr. Cereseto, L.: Les Kystes Hydatiques du Foie Ouverts dans les Voies Biliaires,
J. Int. Coll. Surg. 31:475, 1959.

Dr. Magaldi, P.: Spontaneous Complication of Cholelithiasis by Gluteal Abscess,
J. Int. Coll. Surg. 31:161, 1959.

Dr. Viaggio, J. A.: The Taranto Operation in Correction of Genital Prolapse,
J. Int. Coll. Surg. 31:38, 1959.

La Sección Argentina ha extendido credenciales y cartas de presentación para visitar centros científicos y hospitalarios en Estados Unidos de Norte América a los siguientes Fellows:

Dr. Carlos A. Defilippi Novoa (Capital Federal) Estados Unidos.

Dr. César L. J. Nani (Córdoba) Estados Unidos, Francia, España e Italia.

La Secretaría ha registrado como posibles participantes al XII Congreso Internacional de Cirugía, Roma, Italia, 15 de mayo de 1960 a un grupo ya numeroso y calificado de Fellows:

Dr. Oscar Blanchard: Capital Federal
Dr. Miguel A. Botte: Mar del Plata
Dr. Carlos A. Defilippi Novoa: Capital Federal
Dr. Hipólito Echeverría: Mar del Plata
Dr. Pascual M. A. R. Magaldi: Capital Federal
Dr. Mario A. Rodríguez Sammartino: Mar del Plata
Dr. Juan A. Viaggio: San Isidro
Dr. Jorge A. Taiana: Capital Federal
Dr. Augusto Wybert: Capital Federal

Las respuestas de los doctores Alfredo Angeloni, de Chaco; Juan Paredes Lenzi, de Río Negro y Héctor Bensimón, de Neuquen, motivaron variadas reflexiones sobre problemas concernientes a la actividad profesional de la medicina en nuestro país. La inquietud científica de los cirujanos argentinos, no siempre fácil de satisfacer frente a la extensión del territorio nacional; la distancia a los centros universitarios y a las Sociedades Médicas; el costo elevado de las revistas y de los libros; la dificultad para utilizar técnicas y aparatos modernos, son problemas de gran actualidad. Con frecuencia, quienes desarrollamos cómodamente nuestras actividades en los grandes centros urbanos, olvidamos la angustia, la escasez y las frustraciones de compañeros hundidos en la llanura o en los valles lejanos. Es indispensable por lo tanto, formar conciencia y arbitrar medios para:

Extender la enseñanza quirúrgica fuera del perímetro de las universidades. Los cirujanos argentinos deben poder elegir entre cursos periódicos de perfeccionamiento desarrollados en los grandes hospitales de la República y formas de perfeccionamiento mediante publicaciones, fotocopias de trabajos originales, películas científicas y demostraciones prácticas por equipos viajeros equipados de diapositivas, films y *auténtica experiencia médico-quirúrgica.*

No todos los cirujanos del interior pueden concurrir a Buenos Aires o Córdoba para asistir a un curso de 15 días junto con otros 100 participantes pero muchos, en Comodoro Rivadavia, Gobernador Costa o Jachal, recibirán alborozados la visita de un equipo quirúrgico experimentado, dispuesto a transmitir en forma práctica su bagaje de conocimimientos.

La fotocopia de páginas de libros y revistas, debe ser una de las actividades primordiales de las Sociedades Médicas, de las Bibliotecas de las Facultades, de los distintos Ministerios Provinciales de Salud Pública de la Nación.

Equipos móviles capaces de proyectar películas y diapositivas debieran recorrer el país, para una enseñanza visual de los adelantos quirúrgicos. Estamos seguros que muchos

colegas no han podido, a pesar de su interés, presenciar la ligadura de un conducto arterioso persistente, una lobectomía por bronquiectasias, una neumonectomía por cáncer. Y bien, la enseñanza y la información de nuestros médicos debe marchar paralela a la de los enfermos y de la población.

Saludamos a Ud., muy atte.

VICTORIO A. ARACAMA ZORRAQUIN
Vicepresident 1°.
CARLOS P. DE NICOLA
Vicepresident 2°.
MANUEL B. GALEA
Secretario de Actas

JORGE A. TAIANA
Presidente
ROBERTO A. GOYENECHEA
Secretario
OSCAR BLANCHARD
Tesorero

ISRAEL

Induction of New Members

On the occasion of presenting diplomas to the new Fellows, the Israel Section held a banquet at the Ramat Aviv Hotel in Tel Aviv on May 16, 1959.

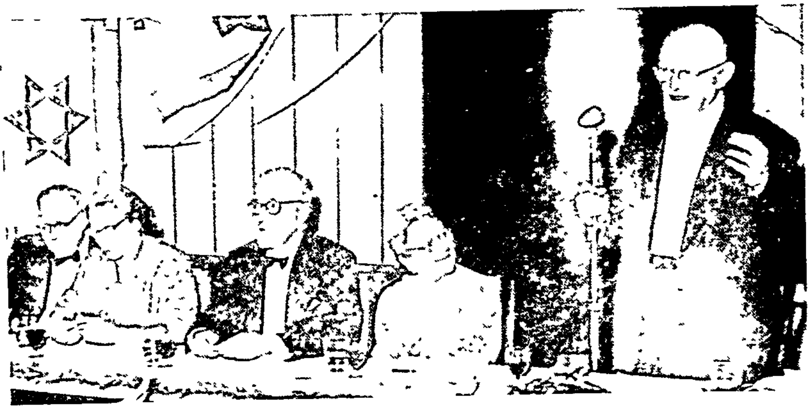
After cocktails were served on the terrace overlooking the outskirts of the quickly growing town, gaily decorated tables awaited the Fellows and their wives.

Prof. J. Asherman greeted the guests and gave a brief review of the latest developments of the Section.

At a general meeting in July 1958 in Tel Aviv, **Dr. Y. B. Neumann** had reported upon the brilliant First Congress of the European Federation of the College in Brussels, and a temporary committee, under the chairmanship of Prof. Asherman, had been elected to enlist new members.

In the following months forty applications were received from surgeons of various specialties who held appointments as directors or deputy directors of hospital departments. By inviting these top people to join the College, the new committee assured the continued high standard of professional standing of its membership and prepared the ground for further enlargement and, in accordance with the aim of the College and the intention of its founder, for enlistment of junior surgeons. For the time being, the doubling of the number of Fellows in the Israel Section

Mrs. Eppenstein, Dr. Eppenstein, Mrs. Asherman, Prof. Asherman speaking, Mrs. Lehmann and Dr. Lehmann



Dr. Lehmann, Mrs. Neumann, Dr. Neumann, Mrs. Sachs, and Prof. Sachs delivering his sprightly address

gave the membership a proud feeling of success and encouragement for the future.

The senior Fellow of the Section, Prof. E. Sachs, proposed a toast to the ladies that was both witty and gallant.

Dr. Y. B. Neumann delivered the after-dinner address, speaking of the essence and aims of the International College of Surgeons. For the benefit mainly of the new Fellows, he briefly reviewed the history of the College, emphasizing the organization and the moulding of its character by its founder, Prof. Max Thorek. He described Max Thorek, the outstanding surgeon and humanist, whose vision created the College, whose energy developed it and whose charm and magnanimity brought thousands of surgeons from all over the world into its fold.

The question was asked, why we need the International College, as there exists the *Société Internationale de Chirurgie.* The answer is that the *Société* is a scientific body with a strictly limited number of members and its aim is exclusively scientific, while the College has a much broader aspect, not being a society for surgery, but a society of surgeons. It is a brotherhood of men whose profession is the basis, and professional standard a prerequisite, for admission. Their humane feeling, however, is the reason for their adherence to its tenets. The College was founded with the epigraph *La science n'a pas de patrie* and its motto is *Pro omni humanitate.* It embraces not only surgeons in the narrow sense of the word, but men of all surgical specialties and their ancillaries, such as anesthetists and roentgenologists; men from North and South America, from Europe and Asia, men of all creeds, colors and races.

After his speech, Dr. Neumann, on behalf of the committee, placed the insignia of chairmanship, medallion and chain, around Prof. Asherman's neck. Prof. Asherman then read the names of those who had been proposed as Fellows and who had, all of them, been approved by the International Board of Trustees. He administered to them the solemn oath of membership.

Prof. Asherman and Dr. E. Lehmann, Secretary of the Section, presented each of the new Fellows with the diploma which had been received from headquarters in Chicago. In the name of the new Fellows, Dr. Eli Peyser, director of the neurosurgical department of the Government Hospital Rambam in Haifa, and son of Dr. D. Peyser, the previous president of the Section, expressed the gratitude of all the inductees for the honor of being created Fellows of the International College of Surgeons and pledged faithfulness and loyalty to the College.

SWITZERLAND

Section Devotes Meeting to Diagnostic Procedures

Dr. E. Kaiser, president of the Swiss Section, organized a scientific meeting of the Section in Zurich on July 4, 1959, dedicated to the latest methods of diagnostic examination.

Reports, followed by ample and animated discussion, included the following:

Laparoscopy: Its Indication and Technic

PROF. O. SPÜHLER and DR. P. HOFFMAN

Laparoscopy is being recognized more and more as a simple, time-saving and most decisive method of differential diagnosis in internal medicine and surgery. In internal medicine it permits, mainly by optical means and by the possibility of an *m* biopsy, differential diagnosis of various liver diseases and different forms of icterus and allows control of the process, e.g., in cases of *hepatitis epidemica.* Besides, it plays an important role in the differential diagnosis of *peritonitis nodosa.* Beyond that, it is of particular importance to the surgeon in deciding whether liver metastases are present in cases of gastric carcinoma. In positive cases and in the absence of stenosis it renders an exploratory laparotomy unnecessary. In cases without liver metastases it increases the chances for the greater usefulness and success of surgical intervention. This harmless method can be recommended as a "small exploratory laparotomy."

The Retropneumoperitoneum

DR. A. LATHER

The filling of the retroperitoneal space allows differentiation of form and dimension of the retroperitoneal organs, particularly the kidney and the suprarenal gland. It is thus possible to differentiate intraperitoneal from retroperitoneal tumors, and among the latter, e.g., renal tumors from other retroperitoneal ones. Pheochromocytomas can be diagnosed and laterally located.

Gastroscopy

DR. J. KARRER

Gastroscopy often reveals the nature of an ulcer as benign or malignant, and distinguishes between hypertrophic gastritis and *linitis plastica* in cases of carcinoma. Its possibilities are limited by the presence of silent regions which cannot be illuminated, but in positive cases it can be decisive.

Diagnosis and Operative Indications in Cases of Hiatus Hernia

DR. E. HAFTER

Hiatus hernia nowadays is much more frequently diagnosed than formerly, but in borderline cases diagnosis is very difficult to establish. The same is true of surgical therapeutical indication, and especially when the hiatus hernia is concomitant with disease in a neighboring organ (cholecystopathy, duodenal ulcer, pancreatitis, carcinoma of the colon, diverticulosis, etc.). It was of particular interest to surgeons interested in this special field to hear this noted specialist in gastroenterology describing the differentiations between images and suggesting the possibilities of internal therapy and surgical indication.

Arthrography of the Knee Joint

DR. RÜTTIMANN

A double contrast filling of the knee joint with air and a contrast medium and roentgenograms taken while the joints are transilluminated largely eliminate overlappings and make possible good operative results in over 90 per cent of injuries of the meniscus.

The Logetron

DR. E. GANZ

Description and demonstration of the electronic copying apparatus for roentgenograms which, by the representation of details very often concealed, permits a more synoptic and precise view of the roentgenograms.

Importance of the Prescalenus Glands in the Differential Diagnosis of Thoracic and Abdominal Diseases

DR. M. LANDOLT

Nonpalpable glands between the sternocleidomastoid and the scalenus anterior very often prove to be pathological in cases of obscure diseases of the thorax and abdomen. Their eradication with the aid of local anesthesia is a small and reasonably recommendable intervention which often suddenly clears up diagnosis and prognosis of an obscure disease.

Cystodiagnosis of Carcinoma

Dr. P. Stràuli

Early diagnosis of carcinoma remains as always a goal to aim at with all the means at our disposal. Long after Papanicolaou had developed, in the United States of America, the cytologic aspects of carcinoma, such methods are only now beginning to be adopted in Europe. That is the reason it was so important to point out the efficiency and the limitations of the method.

All these reports were accompanied by presentations of radiograms or films and when possible by practical demonstrations on patients.

THAILAND

Mid-Year Meeting Combines Scientific and Business Sessions

Maj. Gen. Sanguan Rojanavongse

Col. Luang Prakit Vejasakti

The 1959 Mid-Year Meeting of the Thai Section of the International College of Surgeons was held on May 21, at the Pathology Building of the Chulalongkorn Hospital and Medical School in Bangkok.

The opening speech was delivered by **Col. Luang Prakit Vejasakti**, dean of the Chulalongkorn Medical School, who welcomed the Section.

Maj. Gen. Sanguan Rojanavongse, president of the Section, acknowledged Col. Vejasakti's address and thanked him and the School for their hospitality.

Four scientific papers were delivered during the morning session before a large audience that included, in addition to Fellows of the College, the staff of the Medical School and Hospital and the third and fourth year medical students.

The scientific program included the following presentations:

Causes of Deafness

Air Commodore Sadab Dhiraputa, RTAF (MC), M.D., F.I.C.S.

Enzymatic Zonulolysis in Cataract Surgery

Kobchai Prommindaroj, M.B., F.I.C.S.

Air Commodore Sadab Dhiraputa

Dr. Kobchai Prommindaroj

Glomus Tumor

Pricha Rojananond, M.D.

Heart-Lung Machine with Demonstration of its Use in Dog

Smarn Muntarbhon, B.S., M.B. (Lond.), D.T.M. (L. Pool), F.R.C.S. (Eng.), F.I.C.S., and his co-worker

Dr. Pricha Rajananond

Dr. Smarn Muntarbhon

Deceased Members . . .

1958-1959

Canadian Section

Dr. William V. Cone
Montreal, Quebec
Dr. Dominique Gaudry
Quebec
Dr. Leon Gerin-Lajoie
Montreal, Quebec
Dr. James W. Long
Pembroke, Ontario
Dr. Joseph Bernard Murphy
St. Johns, Newfoundland

United States Section

Dr. C. Norman Abbott
Ontario, California
Dr. Shields Abernathy
Memphis, Tennessee
Dr. Ernest Gunther Abraham
New York, New York
Dr. Homer B. Allen
Brownwood, Texas
Dr. Robert Leonhardt Alter
Toledo, Ohio
Dr. Charles Joseph Armstrong
Louisville, Kentucky
Dr. Donald T. Atkinson
San Antonio, Texas
Dr. William Baker
Chicago, Illinois
Dr. Samuel Robert Barker
Chicago, Illinois
Dr. William Edward Barker
Plaquemine, Louisiana
Dr. Channing W. Barrett
Noesho, Missouri
Dr. Erwin Eric Batzdorf
New York, New York
Dr. Philmour Murray Alexis Bein
Mansfield, Ohio
Dr. William Louis Bendel
Monroe, Louisiana
Dr. Carl F. Birkenstock
La Mesa, California
Dr. John J. Black
Brooklyn, New York
Dr. John Cullen Boodell
Chicago, Illinois
Dr. Kenneth Harold Boyer
Los Angeles, California
Dr. Richard J. Boyce
Poughkeepsie, New York
Dr. Frederick W. Brian
Bloomington, Illinois
Dr. Samuel M. Buch
New York, New York
Dr. Hubbard T. Buckner
Seattle, Washington
Dr. Michael Burghardt
Brooklyn, New York
Dr. Gene Delmar Caldwell
Shreveport, Louisiana
Dr. John E. Cannaday
Charleston, W. Virginia
Dr. William J. Cassidy
Detroit, Michigan
Dr. George S. Cattermole
Denver, Colorado
Dr. Rafe Chester Chaffin
Los Angeles, California
Dr. Eugene H. Claverie
New Orleans, Louisiana
Dr. Matthew E. Creighton
Chicago, Illinois
Dr. Harold R. Cronin
New York, New York
Dr. Eric Alton Cunningham
Louisiana, Missouri
Dr. Maurice G. Der Brucke
Brooklyn, New York
Dr. Joseph C. Devine
Fond du Lac, Wisconsin
Dr. Irving S. Dichter
Stamford, Connecticut
Dr. Martin A. Dolan
Chicago, Illinois
Dr. Edward J. Donnelly
Philadelphia, Pennsylvania
Dr. James J. Donohue
Norwich, Connecticut
Dr. William S. Duncan
Pittsburgh, Pennsylvania
Dr. George S. Duntley
Macomb, Illinois

Deceased Members

Dr. Walter Anthony Dziuk
Chicago, Illinois
Dr. Samuel Gerald Epstein
Detroit, Michigan
Dr. John P. Fatherre
Laurel, Mississippi
Dr. Harold R. Fehland
Wausau, Wisconsin
Dr. Norman A. Fleischman
North Muskegon, Michigan
Dr. Nelson Kelliher Forster
Hammond, Indiana
Dr. Joseph Morris Frehling
Louisville, Kentucky
Dr. Hugh William Garol
San Francisco, California
Dr. Francis V. Garside
Providence, Rhode Island
Dr. John Elmer Gotwals
Phoenixville, Pennsylvania
Dr. Howard B. Granberry
Austin, Texas
Dr. John J. Grant
Freeport, Illinois
Dr. John Dante Guerra
Chicago, Illinois
Dr. Milus Liddell Gunn
Harlan, Kentucky
Dr. William K. Harryman
Hackensack, New Jersey
Dr. William M. Hartman
Macomb, Illinois
Dr. Sol M. Hartzell
Beverly Hills, California
Dr. Walter L. Haworth
Los Angeles, California
Dr. Dan Robert Herkimer
Lincoln Park, Michigan
Dr. Clinton S. Herrman
Philadelphia, Pennsylvania
Dr. Stephen Lee Hileman
Ecorse, Michigan
Dr. James A. Hill
Alpine, Texas
Dr. John P. Hitchcock
Augusta, Georgia
Dr. Melvin L. Hole
Danville, Illinois
Dr. Percy I. Hopkins
Dothan, Alabama
Dr. James S. Houck
Rochester, New York
Dr. Frank Joseph Hynes
New York, New York
Dr. James A. Jackson
Waunakee, Wisconsin
Dr. Roy E. Jernstrom
Rapid City, South Dakota
Dr. Henry D. Jordan
Allentown, Pennsylvania
Dr. Theodore S. Kammerling
Chicago, Illinois
Dr. Martin Seler Kleckner
Allentown, Pennsylvania
Dr. Victor Frank Kling
Michigan City, Indiana
Dr. Jacob Kotz
Washington, D. C.
Dr. Adolph Kraft
Chicago, Illinois
Dr. Lynn Krause
St. Louis, Missouri
Dr. Hugh Alva Ross Kuhn
Hammond, Indiana
Dr. Louis Lahn
Great Neck, L. I., New York
Dr. Wyant LaMont
Los Angeles, California
Dr. Myrven A. Lane
Orland Park, Illinois
Dr. Benjamin Levant
Pittsburgh, Pennsylvania
Dr. Harry R. Levy
Dallas, Texas
Dr. George E. Lewis
Lincoln, Nebraska
Dr. Ira H. Lockwood
Michigan City, Indiana
Dr. George H. Lord
Denver, Colorado
Dr. Hugh Carroll McLeod
Hattiesburg, Mississippi
Dr. Raymond W. McNealy
Chicago, Illinois
Dr. Felix A. Mackowiak
Chicago, Illinois
Dr. Dean Makowski
New York, New York
Dr. Stanley Makowski
Glen Cove, L. I., New York
Dr. Edward W. Marquardt
Elmhurst, Illinois
Dr. Clement L. Martin
Chicago, Illinois

spite of culture. The same young doctor who is horrified at hearing the screams of the whipped laborer cruelly and without mercy punishes his faithful dog, perhaps his only friend, trying to "civilize" him, repressing and annulling his vital instinct of defense until, the training achieved, the poor animal is attacked so savagely one night by other dogs that he bleeds to death.

All the backwardness of the villages on the banks of the tributary rivers of the Amazon nearly two decades ago is minutely described and is impressive to the reader who is eager for the exotic. It is amazing, however, that the young doctor, a graduate of Vienna, should have to perform an obstetric and a peritoneal operation without rubber gloves, which he could have taken with him from La Paz, and without any kind of equipment for sterilization, even that which during the Chaco War, seven years before, was available in the most out-of-the-way places.

The book, written in an even and simple style, does not lack poetic passages obviously originating in a sensitive spirit meditating on those fantastic tropical nights, bathed in moonlight and filled with the rumors and sounds the "love call" forces from the animated jungle world in the quiet of slumbering Nature.

Vivid and human, the story does not lack love, waylaying and overbearing, with the peculiar aspects inherent in the environment; the story abounds in girls with smoldering eyes, a graceful walk and singing voices, who know only how to give and demand love, without the cold calculation and hidden designs of the overcivilized European.

DR. ENRIQUE ST.-LOUP B.

Biopsy Manual. By James D. Hard, James C. Griffin Jr. and Jorge A. Rodriguez. Philadelphia & London: The W. B. Saunders Company, 1959. Pp. 150, with 54 illustrations.

The booklet deals in general and specific terms with the art of performing biopsies. If it is intended for a surgeon, the reviewer feels that it is unnecessary. If it was intended for the general practitioner, the reviewer strongly hopes that reading this book does not entitle the reader to perform all the biopsies described.

Knowing the high qualifications of the senior author, this reviewer is at a loss to understand some of the contents of the book. In the chapter "Common Errors and Omissions in Biopsy," the headings "Lost Specimen" and "Mislabeling of Specimen" seem to be out of place. Also, to consider under "Technique of Biopsy" the competence of the pathologist as one of the four important factors seems to border on the illogical. Surely, if "a biopsy diagnosis does not agree with the clinical findings," a reevaluation of the clinician's knowledge would be of the utmost importance, as the author has already stated that a competent pathologist will be available.

All in all, this is a book that can easily be missed from the library of any physician.

WERNER F. EISENSTAEDT, M.D.

Rudolph Matas. By Isidore Cohn and Hermann B. Deutsch. New York: Doubleday and Co., 1960. Pp. 431. Illustrated.

On Sept. 12, 1860, a son was born to Dr. Narciso and Therese Hereu Matas on the Louque Plantation near New Orleans. The family name was thus Hereu, but the usual American difficulty which combined Spanish names eventually made necessary the anglicizing of the boy's name to Rudolph Matas. Much of this book is the story of Narciso Hereu, who had a remarkable career as physician and pharmacist. He took his family to Paris, where he himself studied with Velpeau and where the family met Dr. Edmond Souchon, who was later to play a large part in the life of Rudolph Matas. Later they went to Barcelona, where Dr. Narciso lost his money in a railroad speculation, and after two years the family moved back to New Orleans. Subsequently Dr. Narciso practiced in Brownsville, Texas, and in Matamoras, Mexico, where Rudolph spent his boyhood. Until the boy was seventeen years of age his schooling was fragmentary. From the age of 12 he was a passionate reader with a phenomenally retentive memory.

In 1877 Rudolph entered the medical department of the University of Louisiana, buying tickets at $20.00 each for the lectures, and two, at $10.00, for anatomy and obstetrics. Edmond Souchon had returned from Paris and was demonstrator in anatomy. By 1878 Rudolph was a resident in the Charité Hospital, where the first trials in the South were being made of Listerian antisepsis. In that year yellow fever killed 5,000 persons in New Orleans alone.

In 1879 the young Matas went with a yellow fever commission to Cuba as a clerk. The famed George Sternberg was secretary to the commission. On March 19, 1880, Matas was graduated in medicine, although he would not be 21 years old for another eighteen months.

During the first year of his practice, Dr. Matas saw for the first time the young woman who provided the great drama of his life. She was Adrienne Landry—an intelligent woman and a gifted musician, who spoke French, Spanish and English with the same fluent facility as did Matas himself. She was married to an invalid, and the Catholic belief made it impossible for her to obtain a divorce. In that year also, Matas became an associate editor of the *New Orleans Medical and Surgical Journal.* Shortly thereafter, on a trip to attend patients with yellow fever at Galveston and Brownsville, Matas met Dr. William C. Gorgas. Because of his previous experience, Matas was able to be the first to instruct Gorgas about that disease.

In 1883, after Adrienne had been legally separated from her husband, Matas delivered her of a second child, Lucian, born after she and her husband were separated. Apparently Matas was torn by emotion. The principles inculcated made marriage to a divorcee unthinkable, yet his father had paid his mother for a divorce and had remarried. These personal details of the difficulties in his family life may have had much to do with the abnormal sensitivity of Matas in his professional and personal relations. His dearest and most important friend was Lafcadio Hearn, yet after four years, during which they were almost inseparable, the friendship broke as if cut with a knife.

The story of the Matas contribution to intestinal surgery and the surgical treatment of aneurysm, as well as that of his early use of spinal anesthesia, is known to surgeons everywhere. He had, in the meantime, lent his assistance to the development of a new Medical Practice Act. He had begun to participate in medical organizational activities. His income had made it possible for him, in 1894, to purchase a mansion in New Orleans.

The lovely Adrienne had become a friend who guided him in the management of his home and aided in his work—she was housekeeper, secretary and friend. In the meantime he suffered dismally because his mother and a spinster sister refused to recognize his Adrienne and hated her.

In 1894, also amidst a hubbub of medical politics, Matas became Professor of Surgery in the Tulane faculty. Then, in 1895, Adrienne's former husband remarried, and Rudolph was free to ask her to become his wife. She was now 35. Rudolph Matas had kept a diary in which each day he put down everything of importance that occurred, yet on Jan. 20, 1895, his wedding day, appears only the note "nothing much of special interest."

As the years passed, Matas became recognized as one of the world's greatest surgeons. He had achieved high office in innumerable medical organizations, including the presidency of the American Surgery Association, the American Society for Thoracic Surgery, and the American College of Surgeons; a Vice-presidency and the distinguished service medal of the American Medical Association, and the Presidency of the International Society of Surgery. The foreign decorations awarded him came from Peru, Italy, France, Cuba, Venezuela and Belgium. He was a corresponding member of innumerable surgical organizations. The Spaniards claimed him and gave him honorary medals, diplomas and decorations.

Yet, with all this, increasing years made him fearful of his fame, and his sensitive nature made him see in every contradiction or fancied slight a deliberate insult. The authors say, "In this same era of the early 1930's Dr. Matas developed two consuming hatreds that became positively fixed convictions. One was for Huey Long, the other for a recently formed International 'College' of Surgeons, which sought to have the established International 'Society' of Surgeons amalgamate with it." His hatred of the International College of Surgeons assumed the proportion of a veritable vendetta. He wrote innumerable personal letters, to everyone who might have an influence on public opinion, concerning the development of the International College.

As the years passed, Dr. Matas was subjected to cruel blows of fate almost beyond tolerance. He had lost one eye through contamination after an operation. His second eye eventually lost its sight. Increasing feebleness made it necessary for him to give up surgery. His beloved wife died. He found it increasingly difficult to meet the deadlines for contributions he had promised to publishers. His last surgical operation was performed in 1940, on the widow of his devoted friend, Professor Marcus Feingold of Tulane.

In Ralph Major's History of medicine the career of Dr. Matas is thus summarized: "Rudolph Matas of New Orleans, student, scholar, and surgeon, did pioneer work on nerve-blocking, spinal anesthesia, and laryngeal intubation and, with his radical operation for aneurysm, aneurysmorrhaphy (1902), made the first advance in this type of surgery since the days of John Hunter." He was a man of prodigious memory, indefatigable in his work, and a profound student of medical history and medical bibliography. His type of genius will not be emulated by the young surgeons of today, who are rigidly trained in the standardized curriculum. In the years of his life, greater surgical progress was made than in all of the earlier years of the life of man. He was ready for such progress and participated in it. He merited well the fine biography that his devoted friend and associate, Isidore Cohn, and his friend, a former editor of the *New Orleans Item*, have prepared.

MORRIS FISHBEIN, M.D.

Thymectomy for Myasthenia Gravis. A Record of Experiences at the Massachusetts General Hospital. By Henry R. Viets and Robert S. Schwab. Springfield, Ill.: Charles C Thomas, Publisher, 1960. Pp. 130, with 32 illustrations.

One can read this monograph in a leisurely manner in two hours, and in that time will have acquired rather easily all the pertinent information related to thymectomy for myasthenia gravis. The content of the monograph is exactly as the title states and is presented in a complete, precise and easily assimilable form. It is divided into eight chapters; four chapters by the two authors, covering a historical introduction, symptomatologic considerations, selection of patients, and evaluation of results. Four chapters by other contributors, on pathology by Benjamin Castleman, on radiologic features by L. S. Robbins, on anesthesia by J. L. Vanderveen, and on technic of thymectomy by R. H. Sweet, are included. The work consists essentially of an analysis of 139 thymectomies performed on 500 patients with myasthenia gravis observed in the Myasthenia Gravis Clinic at the Massachusetts General Hospital. There are no questions related to the problem that are not discussed or answered.

The authors observed that in about 15 per cent of patients with myasthenia gravis there is a neoplasm of the thymus; in 20 per cent the gland is normal, and in 65 per cent it is histologically abnormal, chiefly with respect to a large increase in germinal centers in the medulla. In three-fourths of the female patients the disease has its onset before the age of 35, and in three-fourths of the male patients it begins after the age of 35. The benefit of thymectomy was highly significant in female patients under 40, prolonged remissions occurring more than twice as often as in the controls. The authors are still uncertain whether thymectomy benefits the male but record some indications that this may be so. They have shown that although the removal of thymomas is not particularly helpful with regard to the myasthenia *per se*, it is the procedure of choice in nearly all cases when this condition is present.

They emphasize the means by which they have reduced an originally high mortality rate to virtually zero. This was accomplished chiefly (1) by adjusting the patient preoperatively to a full-scale maintenance schedule of neostigmine; (2) by estimating in advance the proper dose to be given *intravenously* during anesthesia; (3) by checking carefully the postoperative dosage, especially with regard to overdosage, and (4) by providing expert postoperative care (in one-sixth of the cases mechanical respirator was required).

The problem of anesthesia is thoroughly covered, and the surgical technic is described and illustrated clearly. Although some risk is present, the authors are convinced that if the fundamental rules they have discussed are carefully followed the operation can no longer be considered particularly dangerous. "When properly carried out on selected patients, thymectomy offers the patient the best chance for complete and possibly permanent remission from myasthenia gravis."

This treatise is essential as a reference to anyone who deals with myasthenia gravis, and to one who does not it offers an excellent survey of the disease in two hours of easy reading.

LINDON SEED, M.D.

The utility of philosophy, on the theoretical side, is not confined to speculations which we may hope to see confirmed or confuted by science within a measurable time. Some men are so impressed by what science knows that they forget what it does not know: others are so much more interested in what it does not know than in what it does that they belittle its achievements. Those who think that science is everything become complacent and cocksure, and decry all interest in problems not having the circumscribed definiteness that is necessary for scientific treatment. In practical matters they tend to think that skill can take the place of wisdom, and that to kill each other by means of the latest technique is more "progressive," and therefore better, than to keep each other alive by old-fashioned methods. On the other hand, those who pooh-pooh science revert, as a rule, to some ancient and pernicious superstition, and refuse to admit the immense increase of human happiness which scientific technique, if wisely used, would make possible. Both these attitudes are to be deplored, and it is philosophy that shows the right attitude, by making clear at once the scope and the limitations of scientific knowledge.

—*Russell*

Abstracts from Current Literature

Physiopathology of Stress Incontinence. Lapides, J., Ajemian, E. P., Stewart, B. H., Lightwardt, J. R., and Breakey, B. A., Surg., Gynec. & Obst. 111:224, 1960.

In the authors' opinion the basic defect in most cases of stress incontinence is an abnormally short urethra or primary urinary sphincter when the patient assumes the standing position. This sphincter is a tubular structure synonymous with the prostatic and membranous portions of the urethra in the male and with the proximal 3 cm. of urethra in the female. During elevation of the intravesical pressure the effectiveness of the primary urinary sphincter must be increased to maintain continence. This is accomplished by the striated pelvic and perineal muscles.

The average length of the female urethra is 3.8 cm. meter.

Before each operation the length of the urethra is measured with the patient lying down and standing. Urethrocystoscopic and cystometric studies are also made. The operation performed at the University of Michigan Medical Center, the Veterans Administration Hospital at Ann Arbor and the Wayne County General Hospital in Eloise, Michigan, is as follows: A transverse incision is made above the symphysis. The rectus muscles are retracted and the bladder exposed. The urethra is then identified. Two parallel rows of interrupted No. 0 chromic catgut sutures on a No. 6 Mayo needle are taken through the anterior wall of the urethra and the overlying symphysis and rectus fascia, in order to stretch the urethra and fix it to these immobile structures.

The authors state that anterior urethropexy so performed on 22 patients alleviated the stress incontinence in all cases. No follow-up studies are presented. In all of the cases the length of the urethra was increased to an average of 3.8 cm.

Some of the authors' comments, e.g., that female stress incontinence is due to a lesion of the urinary and not of the genital tract may be criticized, as may the statements that the Marshall-Marchetti operation is unphysiologic and that stress incontinence is strictly a urologic and not a gynecologic entity.

E. N. WINTER, M.D.

Treatment of Oesophageal Varices by Partial Oesophago-gastrectomy. Klopper, P. J. Arch. chir. Neerlandicum 12:48, 1960.

This comprehensive article on esophageal varices and their causes is excellent. Mortality rates of 25 per cent after the first hemorrhage from esophageal varicies and of 70 to 80 per cent in the first year after the first episode of bleeding are reported. Various etiologic factors are discussed.

The operative mortality rate in cases of intrahepatic portal hypertension is estimated at 15 to 20 per cent.

Various surgical procedures are described. The advantages of each are mentioned.

The surgical protocol of the University of Amsterdam Surgical Clinic is described. The surgical results are presented for each procedure, and causes of surgical deaths are reviewed, with comment.

The results of the surgical procedures are encouraging and better than those reported in other series. Ligation of esophageal varices proved decidedly advantageous as compared to more radical procedures, and the follow-up results were improved.

The article is an interesting presentation of a grave surgical problem.

R. G. MCCORKLE, M.D.

Extradural Hematoma. McKissock, W., Taylor, J. C., Bloom, W. H., and Till, K., Lancet 2:167, 1960.

This excellent paper presents one of the best current summaries of the historical background, diagnosis, surgical treatment and continued poor salvage rate associated with this type of injury. Observations were made on 125 patients admitted under the care of Dr. McKissock from 1949 to 1959. The material is broken down to age and sex distribution and state of consciousness, and an excellent summary is made with regard to prognosis as related to this classification. Clinical features indicating disturbance of consciousness, scalp injury, ocular signs, papilledema, field defect, headache, vomiting, epilepsy and signs of blood loss are discussed.

Special investigations, including lumbar puncture, and the taking of roentgenograms of the skull (with incidents of fracture and pineal displacement) are discussed. Particularly important are ventriculographic and carotid angiographic study when the clinical diagnosis of extradural hematoma has been made and burr hole exploration gives negative results. The common experience of obtaining negative results from a burr hole situated 1 cm. away from a large extradural hematoma is reemphasized. Associated subdural hematoma was observed in 12 cases, and the importance of opening the dura bilaterally after drainage of an extradural hematoma is brought out. Errors in management are frankly discussed, as is the fate of the survivor. A summary of the various aspects of extradural hematoma in children under the age of 15 is made, with emphasis on the importance of blood loss and the absence of skull fracture. Prognosis is mainly dependent on the level of consciousness at the time of operation, the comatose state having the highest mortality rate secondary to the severity of primary brain injury associated with the hematoma. The overall mortality rate for the series, including the patients who did not reach the operating table, was 27 per cent, with a surgical mortality rate of 23 per cent. It is hoped that, with earlier diagnosis, the mortality rate can be reduced to the region of 10 per cent.

DANIEL MCCASKILL, M.D.

Acute Appendicitis with Perforation. Bradham, R. R., Kredel, F. E., and Green, J. F., J.A.M.A. 173:122, 1960.

The authors review a series of 98 cases of appendicitis with perforation observed between 1950 and 1959. There were 71 male and 27 female patients. The youngest was 18 months of age and the oldest 80 years. Thirty were 10 years of age or younger. Twenty-four had taken some form of cathartic prior to admission. A preoperative diagnosis of acute appendicitis was made in 92 cases. Pain occurred in 97 patients, nausea in 82, vomiting in 77, diarrhea in 19 and constipation in 13. Eighty-nine had fever, an elevated pulse rate and a high leukocyte count. In the authors' opinion the duration of symptoms should be correlated with the clinical picture.

The incidence of perforation in this series was much higher in children than in adults. The authors favor immediate operation after the patient has been prepared. If a frank abscess is present and the appendix cannot be removed without breaking down the walling-off defenses, the abscess is drained extraserously, if possible, and an interval appendectomy is done six to eight weeks later.

JOSEPH BERKE, M.D.

A Rational Approach to Classification and Treatment of Fractures of the Surgical Neck of the Humerus. Drapanas, T., McDonald, J., and Hale, H. W., Jr., Am. J. Surg. 99:617, 1960.

Fractures of the surgical neck of the humerus have been divided into two simple categories, those in which there is contact between the fractured bony surfaces and those with no contact of the fragments. Manipulations were not recommended in the group with contact, and simple sling support with early physical therapy resulted in useful shoulders in 95 per cent of the cases. Manipulations or operative procedures were recommended to convert the noncontact fractures into contact fractures.

CHARLES A. ROCKWOOD JR., M.D.

Incidence of Urological Anomalies in Association with Major Nonurological Anomalies. Carlton, C. E., Jr., and Scott, R., Jr., J. Urol. 84:43, 1960.

It is well known that the simultaneous occurrence of two or more anomalies in the same person is frequent. This study is based on 719 autopsies performed at Texas Children's

Hospital and the Jefferson Davis Hospital. Three hundred and eighteen revealed congenital anomalies. Of these 26, or 8.2 per cent, revealed urologic anomalies in association with the primary nonurologic malformation. In only 5 of the 26 patients either the history or the physical examination revealed any signs indicating a urologic malformation. In all cases a simple excretory pyelogram would have revealed the anomaly, which was significant with respect to its threat to the patient. In view of these autopsy observations, it would seem advisable to include excretory urographic studies in the examination of patients with nonurologic anomalies.

WALTER E. EDKINS, M.D.

The Bioassay of Host Sensitivity. Davis, H. J., Jones, H. W. Jr., and Dickson, R. J., Cancer 13:358, 1960.

Basing their work on that of previous investigators, who have suggested a relation between radiation injury of normal tissue and the radiocurability of carcinoma of the cervix, the authors have attempted to devise a quantitative method of measuring host sensitivity as compared to radiocurability.

Exposure of a cell population to appropriate irradiation produces, among other things, two cellular features that lend themselves to quantitative assay—macrocytosis and multinucleation. The multinucleation count was used because it was more rapid, more reproducible and of more prognostic significance than other available tests.

The area chosen for the test was the buccal mucosa. It was exposed to 1500 r through a 3 cm. circular cone (100 kv., 5 m.a. 15 cm. target distance, with 1 mm. Aluminum filtration, half value layer 1,339 mm.). On alternate days, over a period of three weeks, smears were taken, fixed in 95 per cent alcohol and Pap stained. Only solitary cells were counted in each—the first cell to appear—and only one cell to a field. Multinucleate counts were made and the response expressed as the highest percentage of multinucleate cells for each one hundred counted on each date. A minimum follow-up period of two years was considered as prognostic as a follow-up of five years.

In the 64 cases presented, the host sensitivity paralleled the radiocurability of carcinoma of the cervix. A suitable index of individual sensitivity to radiation, in the authors' opinion, might allow timely selection of radioincurable cases for alternate surgical management.

EDWIN R. CORE, M.D.

Retrograde Ileopyelography. Staley, C. J., Surg., Gynec. & Obst. 111:243, 1960.

A satisfactory technic for retrograde ileopyelographic study of patients in whom the ureters have been implanted into an isolated ileal segment has been developed. A soft rubber urethral catheter is threaded through a small opening in the nipple of a nursing bottle. The nipple is introduced into the ileostomy opening to establish a leakproof connection, or a Foley catheter is used with the balloon partly inflated. Twenty cc. of 35 per cent Diodrast is injected for opacification of the ureters and the renal pelvis. The method is not recommended for every patient with an ileal bladder, but it may provide information concerning the patient with persistent oliguria or a nonfunctioning kidney when intravenous pyelographic study is of no help.

WALTER E. EDKINS, M.D.

Comparative Study of Results of Radiological and Cytological Tests. Kurokawa, T., and others, Tohoku J. Exp. Med. 71:225, 1960.

The authors' preamble reiterates the fact that, generally speaking, roentgen examination is of the highest value in the diagnosis of gastric carcinoma. A number of complementary diagnostic methods came next in importance, particularly, in the authors' opinion, cytologic study. In this paper the results of cytologic diagnosis are compared with those of roentgenologic diagnosis. The authors concluded that, in the series reported, the roentgen and cytologic diagnoses were almost equally reliable so far as malignant disease of the stomach is concerned. The overlapping, combined accuracy of these two methods also appreciably increases the likelihood of an accurate diagnosis of doubtful or indeterminate pathologic conditions of the stomach. Cytologic study should therefore be used in conjunction, not in competition, with roentgen study in difficult cases. Although the presence of tumor cells is almost always confirmatory of gastric malignant change and their absence suggests a benign lesion, failure to identify tumor cells does not rule out malignancy.

BERNARD J. FICARRA, M.D., SC.D.

Regional Chemotherapy for Cancer: Experiences with 116 Perfusion. Stehlin, J. S. Jr., Clark, R. L. Jr., White, E. C., Smith, J. L. Jr., Griffin, A. C., Jesse, R. H. Jr., and Healey, J. E. Jr., Ann. Surg. 151:605, 1960.

As an adjuvant of surgical treatment, chemotherapy by the perfusion technic offers many possibilities for certain select tumors. It is not recommended as a standard procedure.

There were 92 patients treated, more than half of whom had malignant melanoma. For the most part phenylalanine mustard alone or in combination with the shorter acting nitrogen mustard, was used. There were 2 deaths incident to the procedure. Local tissue tolerance and leakage presented problems. Malignant melanoma was the most sensitive type of tumor and squamous cell carcinoma the least so. The results, in general, were difficult to evaluate, since amputations were done in some cases, while in other cases the location of the tumor precluded examination of the tissue after treatment. Since spontaneous necrosis takes place in many tumors, necrosis alone is not reliable for an assay of results.

EDWIN R. CORE, M.D.

Surgery of the Hip Joint. Charnley, J., Brit. Med. J. 1:5176, 1960.

The author discusses the importance of the surgeon's mastering various reconstructive procedures of the hip joint, so that the treatment of each disorder can be "tailored" to the individual case. Various arthroplasties, arthrodeses and displacement osteotomies are discussed, and the author describes eleven years' experience with his central dislocation stabilizing procedure and central dislocation arthrodeses. Future technical developments in hip arthroplasty with plastics are still in the experimental process. The use of teflon acetabular prostheses in cases of rheumatoid arthritis was particularly promising.

CHARLES A. ROCKWOOD JR., M.D.

Traitement des Fistules Oesophago-Thoraciques (Treatment of Esophagothoracic Fistulas). Mathey, J., Fekete, F., Lortat-Jacob, J. L., and Maillard, J. N., J. Chir. 79:377, 1960.

There are three varieties of esophagothoracic fistula:

(1) esophagotracheobronchopulmonary fistulas,
(2) esophagopleural and extrapleural fistulas, and
(3) fistulas accompanying cicatricial stenosis of the esophagus.

Esophagorespiratory fistulas, congenital or acquired, are characterized by paroxysms of cough following the intake of food, especially liquids, and expectoration of purulent sputum containing food particles. Visualization of the fistula by endoscope and lipiodol instillation in the esophagus of the trachea is possible.

The cause of acquired esophagorespiratory fistulas may be traumatic (25 per cent), or the lesion may be secondary to fistulization of esophageal diverticula (23 per cent) or infection (23.5 per cent).

Preoperative care of the debilitated patient is mandatory: drip feeding through a nasogastric tube is the simplest method of restoring the nutritional status, in addition to the methods used to clear the airway of any existing infection of the respiratory tract.

In the majority of cases a direct surgical attack is required—resection of the fistula and closure of the openings in the esophagus and the tracheobronchial tree. The therapeutic results reported in the literature are favorable. Of 89 cases reviewed the fistulas in 80 were cured; in 2 they recurred, and in 7 the patients died.

Esophagopleural fistula occurs frequently after endoscopic procedures and rarely after pneumonectomy. It presents the picture of pyothorax, is resistant to the usual methods of treatment and causes no digestive symptoms. The diagnosis is made by recovering food particles from the empyema fluid, since

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Esophagopleural fistula occurs frequently after endoscopic procedures and rarely after pneumonectomy. It presents the picture of pyothorax, is resistant to the usual methods of treatment and causes no digestive symptoms. The diagnosis is made by recovering food particles from the empyema fluid, since lipiodol opacification of the esophagus does not necessarily demonstrate the fistula.

Small fistulas can be cured by drip feeding and drainage of the pus.

Traumatic fistulas with pyothorax are treated by direct suture in an aseptic field, after drainage of the acute pleuritic area.

Fistulas following pneumonectomy can be treated by direct suture, preferably through a contralateral thoracotomy or by a Thorek operation.

SAFUH ATTAR, M.D.

Sciatic Nerve Injury in Infants. Combs, M. A., Clark, W. K., Gregory, C. F., and James, J. A., J.A.M.A. 173:116, 1960.

This paper is concerned with the diagnosis, surgical treatment, orthopedic support and prognosis in a group of 12 infants in whom sciatic neuropathic conditions developed after intragluteal injection of various medicaments, including Tetracycline, penicillin, Chloramphenicol, Streptomycin, Vitamin K, iron dextran, gamma globulin, antipertussis rabbit serum and several other drugs. Exploration of the sciatic nerve was done in 3 cases, revealing scarring about the sciatic nerve, and neurolysis was carried out. There was some recovery in the brief postoperative period, but it is too early to evaluate the results. Recovery has been disappointing in the majority of the cases. A plea is made for the use of the midanterior thigh area as a preferable site for intramuscular injections in infants and young children, because of the smallness and shallowness of the total gluteal area, since the patient is often squirming and being uncooperative.

DANIEL MCCASKILL, M.D.

Cytochemistry of Benign and Malignant Squamous Epithelium of the Cervix Uteri. Gross, S. J., and Kinzie, G., Obst & Gynec. 15:261, 1960.

In this study 30 normal subjects and 26 with malignant disease were subjected to reactions for acid phosphatase, nonspecific esterase, and alkaline phosphatase.

Whereas alkaline phosphatase is absent in both benign and malignant squamous cervical epithelium, acid phosphatase and nonspecific esterase are present, with predictable gradients of activity indirectly proportionate to the morphologic differentiation. Histocytes usually contain large quantities of acid phosphatase and nonspecific esterase but little alkaline phosphate. Leukocytes, on the other hand, tend to have considerable alkaline phosphate activity but no acid phosphatase or nonspecific esterase. The significance of this remains unknown.

Limitless cell division, the trait unique to carcinoma, is probably independent of morphologic structure and, as far as current technics indicate, of chemical differentiation as well.

EDMUND LISSACK, M.D.

Use of the Gracilis Muscle in the Repair of a Urethroperineal and a Vesicoperineal Fistula After Removal of the Rectum. Mowlem, A., and Creevy, C. D., Surgery 48:340, 1960.

Fistulas of the bladder and urethra following abdominoperineal excision of the rectum are difficult to close because of lack of suitable tissue with which to make and buttress the repair. Any method that would assist in the correction of this distressing condition is indeed welcome. The authors have utilized what appears to be a new method. They emphasize that four factors militate against the healing of urinary fistulas: (1) scarring of the affected structures; (2) the presence of an adjoining space which must fill by fibrosis; (3) the lack of local tissues that are flexible, mobile and well supplied with blood, and (4) infection. They have used the gracilis muscle because its blood supply and innervation enter its proximal fourth and permit mobilization and preservation of the distal three-fourths. The muscle is quite long and offers a large mass of healthy, viable soft tissue that can serve either as a sphincter or, as in the present case, as a buttress for the repair of urinary fistulas. In the case in which this was used, healing was prompt and uneventful despite the approximation of flaps of scar over the fistulas. The technic of the procedure is explained in two diagrams.

CARL K. PEARLMAN, M.D.

THE JOURNAL OF THE INTERNATIONAL COLLEGE OF SURGEONS

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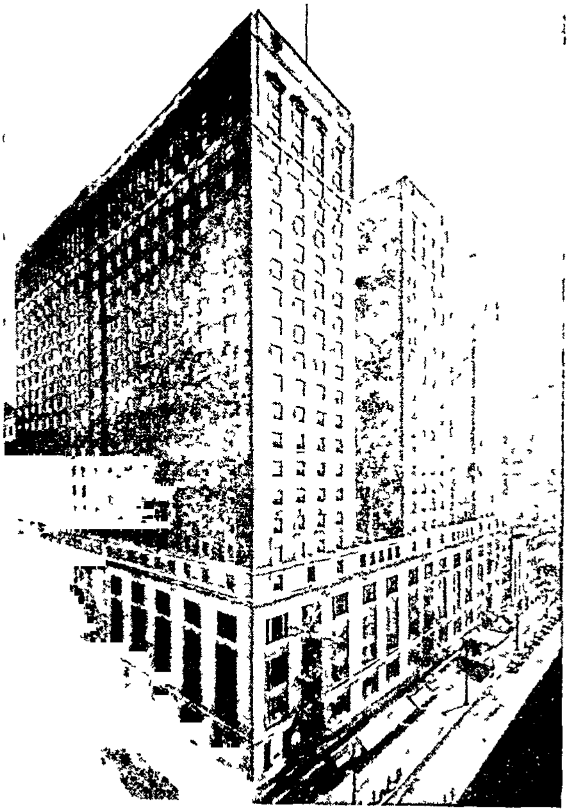

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The Journal of the International College of Surgeons

Vol. 31, No. 6 SECTION II December, 1960

BULLETIN

Embodying Activities of the World Federation of General Surgeons and Surgical Specialists, Section News and Comments

Dr. Max Thorek
FOUNDER
INTERNATIONAL
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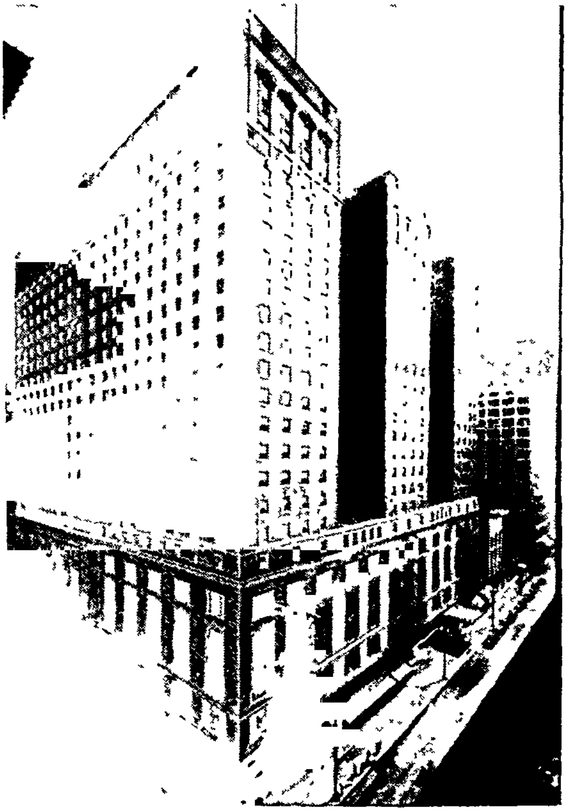

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Arriving a.m. or p.m. Departing a.m. or p.m.

Please include the names of all persons who will occupy rooms requested

Confirm reservations to:

Reception to the Nursing Profession

International Surgeons' Hall of Fame
The evening of Wednesday, August 24, 1960

Dr. Herbert Pollack, chairman of the Hall of Fame Art Committee, escorting guests to the registration desk

Guests admire marble bust of Florence Nightingale from the Max Thorek collection

Smiling guests

Guests examining Nightingale memorabilia including model of nurse's cap designed by her

Visitors fill the spacious rooms of the Hall of Fame

Above: Lady beside portrait of Florence Nightingale creates an impromptu but charming composition captured by our photographer

At right: Admiral Walter F. James, executive director of the International College of Surgeons, extending a cordial welcome to representatives of the nursing profession

International Surgeons' Hall of Fame

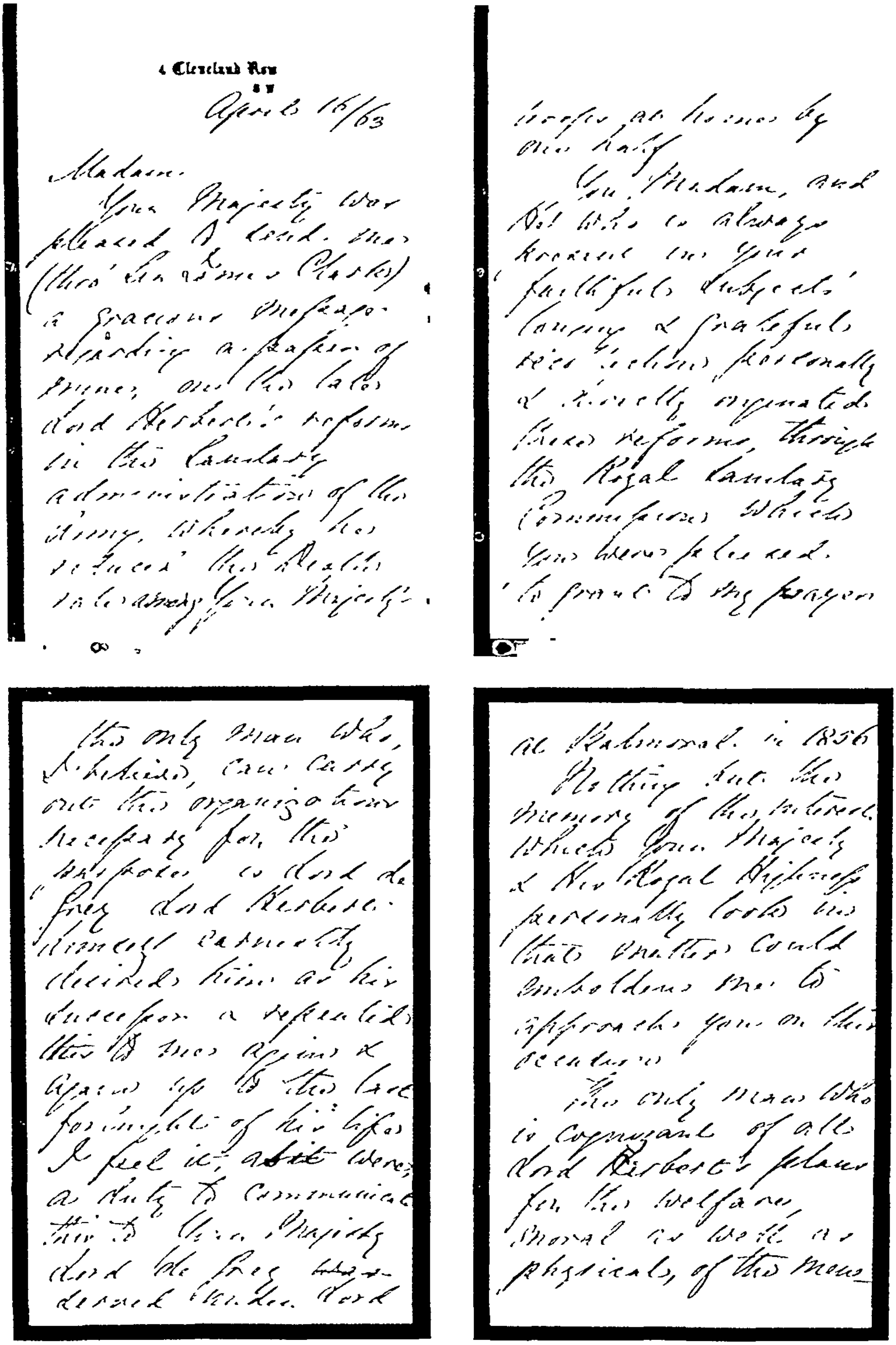
Florence Nightingale Memorial Exhibit

The fiftieth anniversary of the death of Florence Nightingale is being fittingly commemorated by a special exhibit in the International Surgeons' Hall of Fame.

The exhibit consists of a portrait bust of Miss Nightingale, numerous photographs, a variety of memorabilia, including a model of a nurse's cap designed by Miss Nightingale, and about sixty unpublished letters in her own handwriting. The letters represent the voluminous correspondence she carried on after illness in the Crimea forced her into semi-retirement. The letters come mainly from the collection of Dr. Max Thorek, the late founder of the College and of the Hall of Fame. Several letters are being displayed through the courtesy of Dr. Karl A. Meyer, F.A.C.S., F.I.C.S. (Hon.), who had presented them to the library of the Cook County School of Nursing.

The exhibit was opened formally with a reception to representatives of the nursing profession on the evening of Wednesday, August 24, at the Hall of Fame.

Letter to Queen Victoria



4 Cleveland Row
S.W.

April 16/63

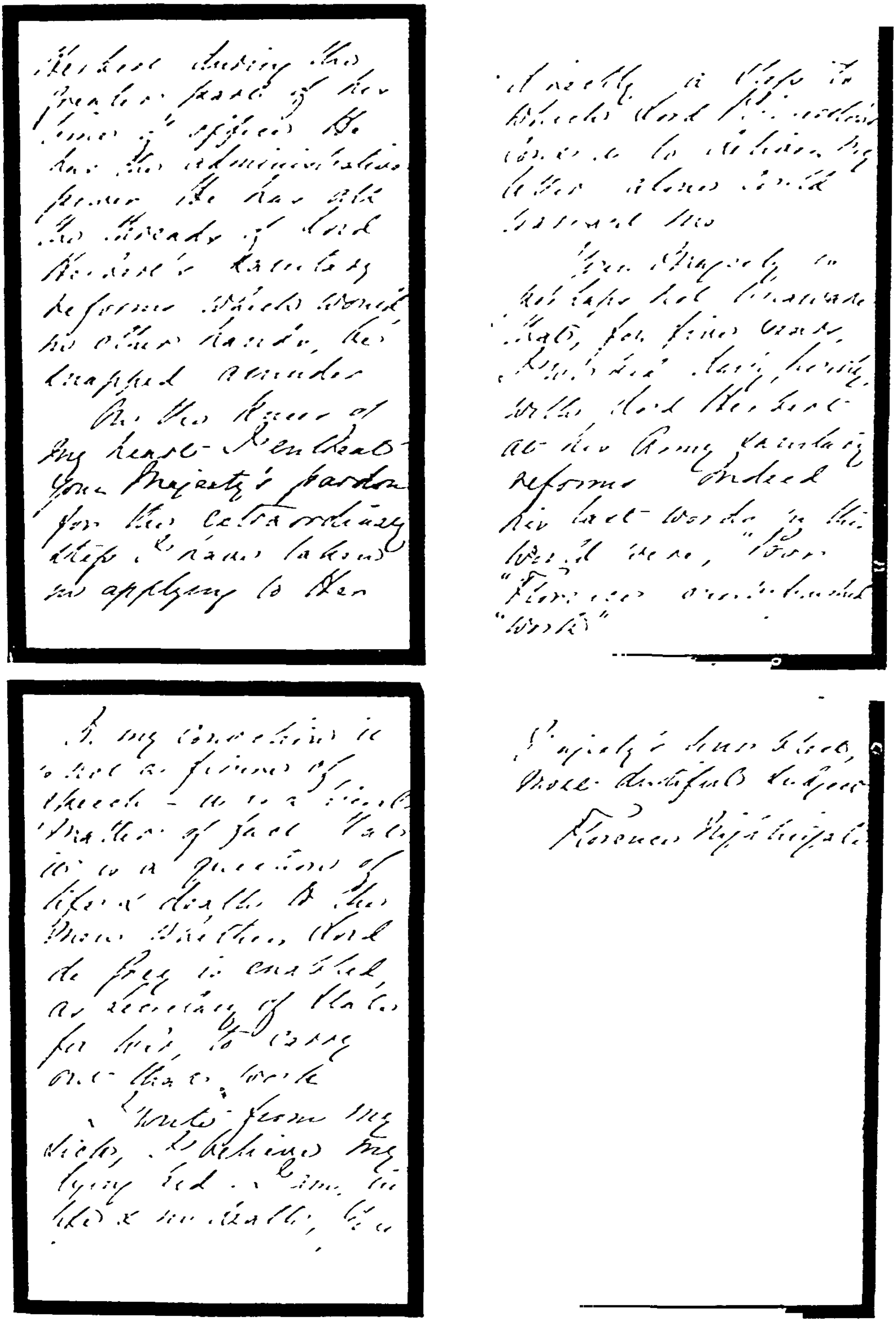
Madam.

Your Majesty was pleased to send me (thro' Sir James Clark) a gracious message regarding a paper of mine, on the late Lord Herbert's reforms in the Sanitary administration of the Army, whereby he reduced the death rate among Your Majesty's troops at home by one half.

You, Madam, and He who is always present in your faithful subjects' loving & grateful recollection personally & directly originated these reforms, through the Royal Sanitary Commission which You were pleased to grant to my prayers at Balmoral in 1856.

Nothing but the memory of the interest which Your Majesty & His Royal Highness personally took in that matter could embolden me to approach you on this occasion.

The only man who is cognizant of all Lord Herbert's plans for the welfare, moral as well as physical, of the men the only man who, I believe, can carry out the organization necessary for the purpose is Lord de Grey. Lord Herbert himself earnestly desired him as his successor & repeated this to me again & again up to the last fortnight of his life. I feel it, as it were, a duty to communicate this to Your Majesty. Lord de Grey ~~was~~ desired [illegible]. Lord



Herbert during the
greater part of his
time of office. He
had the administration
Power. He has left
the threads of Lord
Herbert's Sanitary
Reforms which would
in other hands, be
snapped asunder.
On the score of
my heart-[illegible]
Your Majesty's pardon
for the extraordinary
step I have taken
in applying to Her

[illegible] a step to
which Lord [illegible]
[illegible] to advise, by
letter alone [illegible]
[illegible] me.
Your Majesty is
not aware that I was
[illegible] for five years,
[illegible] day by day,
with Lord Herbert
at the Army Sanitary
Reforms. Indeed
his last words in this
world were, "Poor
"Florence our unfinished
"work."

If my conviction is
not a figment of
[illegible] — it is a simple
matter of fact that
it is a question of
life & death to the
[illegible] whether Lord
de Grey is enabled,
as Secretary of State
for War, to carry
out this work.
I write from my
sick, I believe my
dying bed. I am, in
life & in death, Your

Majesty's humble,
most dutiful subject
Florence Nightingale

This eight-page letter written by Florence Nightingale in 1863 from her "sick, I believe my dying bed," is part of the Karl A. Meyer collection. The heavily black-bordered stationery is out of respect to the Prince Consort, who had died two years before. Miss Nightingale, of course, survived her "dying bed" by forty-seven years

4. Cleveland Row
S. W.
April 16/63

Madam

Your Majesty was pleased to send me (thro' Sir James Clark) a gracious message regarding a paper of mine, on the late Lord Herbert's reforms in the Sanitary administration of the Army, whereby he reduced the Death rate among Your Majesty's *** troops at home by one half.

You, Madam, and He who is always present in your faithful subjects' longing & grateful recollection, personally & directly originated these reforms, through the Royal Sanitary Commission which you were pleased to grant to my prayers *** at Balmoral in 1856.

Nothing but the memory of the interest which your Majesty & His Royal Highness personally took in that matter could embolden me to approach you on this occasion.

The only man who is cognisant of all Lord Herbert's plans for the welfare, moral as well as physical, of the men-*** the only man who, I believe, can carry out the organizations necessary for the purpose is Lord de Grey. Lord Herbert himself earnestly desired him as his successor & repeated this to me again & again up to the last fortnight of his life. I feel it, as it were, a duty to communicate this to Your Majesty. Lord de Grey served under Lord*** Herbert during the greater part of his time of office. He has the administrative power. He has all the threads of Lord Herbert's sanitary reforms, which would in other hands, be snapped asunder.

On the knees of my heart I entreat Your Majesty's pardon for the extraordinary step I have taken in applying to Her*** directly—a step to which Lord Palmerston's consent to deliver my letter alone could warrant me.

Your Majesty is perhaps not unaware that, for five years, I worked daily, hourly, with Lord Herbert at his Army sanitary reforms. Indeed his last words in this world were, "Poor Florence—our unfinished "work"— ***

In my conviction it is not a figure of speech—it is a question of life & death to the men whether Lord de Grey is enabled, as Secretary of State for War, to carry out that work.

I write from my sick, I believe my dying bed. I am, in life & in death, Your *** Majesty's humblest, most dutiful subject.

Florence Nightingale

(Text of Preceding Letter)

The interested audience

Florence Nightingale

A Life of Wisdom and Courage at the Service of Justice and Mercy

H. J. ANATOLE JARO, Ph.D.

CHICAGO, ILLINOIS

We are here to pay tribute to a great lady, the founder of the modern profession of nursing, Florence Nightingale, who died fifty years ago, on August 13, 1910.

Because her name is closely associated with the development of public health work and private and hospital nursing, with concepts such as antisepsis and asepsis, and with the modern evolution of the sciences of bacteriology, medicine and surgery, we feel that an exhibit, even on a small scale, of Miss Nightingale's letters from the collection of the late Dr. Max Thorek and from the collection of the Cook County School of Nursing given to their library by Dr. Karl A. Meyer, mirroring as they do her complex personality, would be appropriate.

Handwritten letters have a certain fascination. The art of letter writing has been nearly lost in our tumultuous time. But Western Union telegrams cannot replace the value of personal communication in the manner that Florence Nightingale established it between herself and her contemporaries.

Each of her letters represents an aspect of this great nurse's personality. There is her fighting spirit, her courage, her sense of justice, her wit, her humor, her profound feeling for the poor and needy, and her thoughtfulness in sending to her friends flowers and rare delicacies to mark festive occasions.

Miss Nightingale combined depth of emotion with disciplined reason. (During the later years of her life she studied the

Mr. H. J. Anatole Jaro, Ph.D., art director of the International Surgeons' Hall of Fame, delivered this address at the reception in honor of the nursing profession held at the opening of the Florence Nightingale Exhibit.

Mrs. Donald B. Frankel and Mrs. Jerome J. Moses, representing the Woman's Auxiliary to the United States Section of the International College of Surgeons, offer coffee and a gracious welcome

works of Plato, the great philosopher of the fourth century before Christ, who taught that justice, though only one of the virtues, is inseparable from the other three—temperance, courage and wisdom.)

Miss Nightingale was born on May 12, 1820, in one of the most beautiful cities on this earth, a graceful monument to the Renaissance—the Italian *Firenze*. Her kind parents gave her the English equivalent of that lovely name—Florence—evocative of beauty and the documentation of the human spirit at one of the high points of its aspiring flight.

In 1844, when she was twenty-four years young, Florence Nightingale made her first series of visits to observe hospitals. She had spent most of her childhood in the English countryside with occasional visits to London. On a trip to Egypt, she made the acquaintance of two sisters of the Catholic Order of Vincent de Paul, who impressed her with their knowledge of the history of nursing, which, she saw, was intimately connected with religion, war and science. During a brief stay in Alexandria she observed the hospitals and schools of the Order in coordinated action. The formal discipline in nursing, hospital administration and the education of nurses interested her greatly, and she made the decision to enter nursing as her own profession.

After extensive studies with the Deaconesses, a German Protestant order, in Kaiserswerth, she worked in hospitals in London and in Edinburgh. She went to France, and in Paris studied nursing organizations. In August of 1853, when she was thirty-three years old, she became superintendent of the *Hospital for Invalid Gentle Women* in Chandos Street, London. Characteristically, she moved the Hospital to Harley Street, the famous and fashionable abode of surgeons.

I cited dates—1844, 1853—and I shall cite additional dates. They are milestones in a great historic mission—the campaign for a system of scientific training for nurses and an appeal to women to enter the nursing profession.

The war in the Crimea saw Miss Nightingale appointed by the government as superintendent of the barrack hospital in Scutari, Turkey. On October 21, 1854, she set out with thirty-eight nurses, reached her destination in November, and found conditions so shockingly unsanitary that she was galvanized into action. It was here that she became a legend. She wrestled with the red tape of military administrators, introduced antiseptic methods, was fought as a dangerous innovator, succeeded in getting herself appointed supervisor of all hospitals in the Bosporus area and had ten thousand men as her charges. (The press gave her spirited support, reporting conspicuously and at length all her activities.) The death rate in the hospitals under her administration dropped within four months from forty-two per cent to an actual two per cent. A superhuman effort had triumphed! *The Lady of the Lamp,* who worked twenty hours a day, found time to walk through the hospital barracks at night, consoling the pain-stricken patients, giving a smile to the sufferers, holding her oil lamp carefully in her hand, shielding it that the weak beam wake no sleeping patient.

She returned to London on July 1, 1856, and London was prepared to give her a hero's—or a heroine's—welcome. But she eluded the crowd, driving home in a horse-drawn coach, and did not hear the London masses singing *God bless the sweet Miss Nightingale, who nursed Britannia's soldiers.* A copy of the song is displayed in our exhibit.

Queen Victoria and her consort, Prince Albert, together received the great nurse, and promised her to support the much needed reforms in military hospital administration. Later, the Queen is reported to have said, "Such a head! I wish we had her in the war office."

Florence Nightingale never retired. She was stricken by disease, but she made her boudoir her office, writing letters, receiving carefully selected visitors for consultation and waging her ceaseless campaigns for improvement, and more improvement, in the entire field of health care and public welfare. She was outraged by conditions in public workhouses, where the old and the poor were lodged indiscriminately with the incurable and the insane, and through her letters she made her voice heard throughout England and throughout the world.

Florence Nightingale's spirit is among us still.

You ladies of the nursing profession are the present representatives of this greatest of all missions. Modern techniques make it possible today to inspect a sickroom by television. But no electronic device can replace a smile, a cooling hand of helpfulness; nothing can replace a nurse, a lady of the lamp and the cap; nothing can replace the Nightingale oath and the high mission of nursing.

We invited you that together we might honor Florence Nightingale. But we also wished to honor you as Florence Nightingale wished to have the representatives of her chosen career honored. You are indeed our guests of honor.

Please be our guests not for this evening only. Return to our museum. Study at leisure in our archives, and see for yourselves, in Florence Nightingale's letters, that the justice for which your great colleague fought is inseparable from courage and wisdom.

Coffee and friendly conversation

In Rochester, Minnesota, Dr. Gershom J. Thompson, head of the section of urology at the Mayo Clinic, personally conducted the visitors through some of the Clinic facilities and took pleasure in calling attention to special points of interest

In Chicago, Rear Admiral Walter F. James, executive director of the International College of Surgeons, standing third from the left, officially greeted the surgeons upon their arrival in the city and escorted them through a crowded day of activity

In the International Surgeons' Hall of Fame, Mr. H. J. Anatole Jaro, Ph.D., director of its art exhibits, standing second from the right, discussing a noteworthy aspect of the Museum's collection

Voyage du Tour du Monde, 1960

Dr. André Nicolet, past president of the Swiss Section, served as the scientific coordinator of the Swiss Around-the-World Tour. Together with Mme. Nicolet, he met a group of fellow surgeons, most of them members of the Swiss Section (some accompanied by their wives) on Saturday, September 3, in Paris. The same day they flew to New York. They remained in New York until September 9. There their activities included visits to various hospitals and clinics and a good deal of sight-seeing, including a boat ride around the island of Manhattan. **Dr. Horace E. Ayers**, regent for the United States Section in New York State, was their official host.

From New York, the group traveled to Washington, D.C., where **Dr. Virgil T. DeVault**, a prominent Fellow of the College, who is medical director of the foreign service of the United States Department of State, represented the College in making the visitors most welcome in the nation's capital. They remained in Washington until the evening of Sunday, September 11, when they flew to Chicago.

There they were awaited at the airport by **Dr. Walter F. James**, executive director of the College, and **Mr. H. J. Anatole Jaro**, Ph.D., art director of the International Surgeons' Hall of Fame.

The stay of the group in Chicago unfortunately was brief. The officers of the College in Chicago and the College staff did what was possible to make the one day of Monday, September 12, pleasant and meaningful. The Cook County Hospital opened not only its doors but all its facilities to the visitors and each was able to spend his time interestingly in the wards and operating rooms of his own specialty. In the afternoon there was a tour of the College headquarters and of the International Surgeons' Hall of Fame, and in the evening a cocktail party and a dinner at the Drake Hotel.

Dr. Edward L. Compere thanked the guests for granting him the privilege of greeting them—probably his last official act in Chicago—as president of the United States Section, and **Dr. Philip Thorek**, editor-in-chief of the *Journal* and the *Bulletin*, introduced a note of emotion understood and well approved by the visitors when he welcomed them, as he said, with sincere cordiality, even as his late father, Dr. Max Thorek, the founder of the College, would have done.

At the Mayo Clinic, Dr. Henry W. Meyerding, retiring international president of the College, seated third from the left, poses with his guests Directly behind him is Dr. Gershom J. Thompson, and to Dr. Thompson's right stands Dr. Victor Johnson, director of the Mayo Foundation

Dr. Horace E. Turner, the secretary general, expressed his pleasure at seeing the distinguished representatives of Switzerland, where the College had been born, and Dr. Walter F. James pointedly regretted the brevity of the stay and exacted a promise of a return to Chicago in the near future, perhaps in connection with a Congress or a meeting of the College. Others who were present and took the opportunity of extending their good wishes to the travelers included **Dr. Morris Fishbein,** consultant to the international secretariat, and a number of other officers of the College.

The following day the tourists flew to Rochester, Minnesota, where **Dr. Henry W. Meyerding,** then president of the International College, and **Dr. Gershom J. Thompson,** president-elect of the United States Section, were their official hosts. They were enabled to attend surgical clinics and visit the Mayo Clinic facilities, including the Research Center. One evening they were guests of the Mayo Foundation at a dinner in the Mayo Foundation House, which is the old home of Dr. W. J. Mayo. After dinner the group congregated in Balfour Hall and exchanged ideas about postgraduate medical education. On the other evening of their stay they were invited to attend the Clinic staff meeting.

Mrs. Thompson entertained the ladies at tea on Wednesday afternoon.

On Thursday morning the group left Rochester by plane for Las Vegas, Nevada, and from there set off on an excursion through the states of Utah and Arizona including a stopover at the Grand Canyon. They visited the national parks and the Indian reservations, and had a good view of the American desert lands.

They arrived in Los Angeles on Tuesday, September 20. There **Dr. Joseph M. de los Reyes**, regent in Southern California, thoughtful and genial, arranged for their scientific and clinical sessions and their entertainment. Disneyland and Hollywood were not overlooked. The days and the evenings were crowded, and on Thursday evening the party flew to San Francisco.

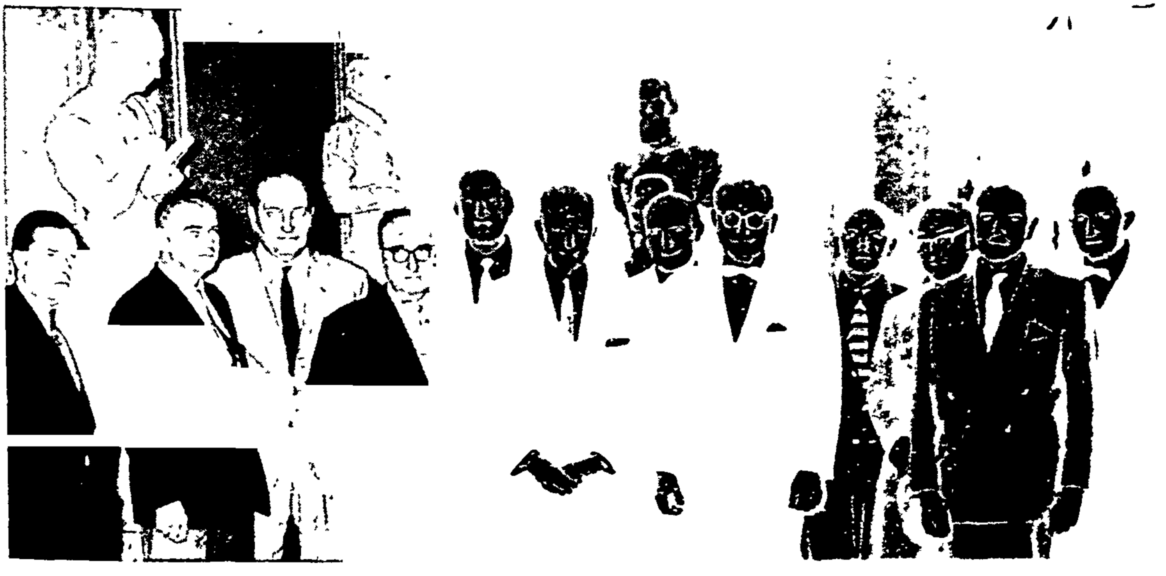
Dr. Charles Pierre Mathé, vice-regent in Northern California, and **Dr. August Spitalny**, president of the Northern California Section, welcomed the visitors. Clinical visits had been arranged at the University of California, St. Mary's, Mt. Zion and Children's Hospitals, and Dr. Mathé gave a dinner party in honor of the guests at the *Cercle de l'Union* on the evening of Friday, September 23.

In San Francisco the tour was reorganized. Those who had come only for the trip through the United States returned by plane, flying over the North Pole, and those who wished to make the rest of the journey were joined by a complement of travelers who had flown direct from Paris to San Francisco.

From San Francisco the reorganized group flew over the Pacific to Hawaii, where **Dr. Ralph B. Cloward**, of Honolulu, regent for the College in the state, was their official host.

The happy days in Hawaii passed quickly, and on the evening of Tuesday, September 27, the tourists were flying again across the ocean, and reached Tokyo on Thursday, September 29, having lost a day on crossing the international date line.

From Japan the itinerary included visits to Hong Kong and Bangkok and a week's tour through India. On October 12 the travelers met the United States group on



In the Hall of Immortals at the Hall of Fame, Dr. Horace E. Turner, secretary general of the International College of Surgeons, stands directly in the center among the visitors he was happy to welcome to the College headquarters *its* Around-the-World tour. The Swiss group went on to Colombo, Pakistan, Teheran, Turkey, Greece, and home.

Members of the Tour

Because of the flexibility of the tour it is somewhat difficult to name precisely those who were its members.

Those who were present in Chicago included, in addition to Dr. and Mme. André Nicolet, **Dr. Willy Hessler,** chief surgeon of the hospital at Orbe, Vaud, Switzerland; **Dr. Andrew Keller,** surgeon of the hospital at Payerne (V.D.), Switzerland; **Dr. Giacomo Naeff,** chief surgeon of the surgical department of the Canton Hospital, Schaffhausen, Switzerland; **Dr.** and **Mme. Bernard de Montmollin,** Neuchâtel, Switzerland; **Prof. Louis Nicod,** head of the department of orthopedics, University Hospital, Lausanne, Switzerland; **Dr. Jean J. Pollet,** plastic surgeon, and **Mme. Pollet,** of Paris, France; **Dr. E. Renfer** of Berne, Switzerland; **Dr. Willy Taillard** of Basel, Switzerland, and Mr. **Berndt,** the tour guide.

Those who had arranged to join the tour at San Francisco included **Dr.** and **Mme. Lucien Diamant-Berger** of Paris, France, **Dr.** and **Mme. de Preux** of Sion, Switzerland, and **Dr. Gustav Seidl,** chief of the surgical department of the Elisabethinenhospital in Graz, Austria, son-in-law of the late Prof. Hans Finsterer of Vienna, who had brilliantly and devotedly served the College as its fifth international president.

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Most of the touring group and some of their Hong Kong friends assembled at the entrance of the Peninsula Hotel: Mrs. Renald Ching in the front row, second from the right; Dr. S. H. Lin at the extreme left; Dr. Renald Ching second from right in the next to the top row, and almost directly in front of him former president of the Hong Kong Section, Dr. Arthur Woo

Around-the-World Clinical Tour, 1959

CHAPTER III

Hong Kong—Pearl of the Orient

EDWARD L. COMPERE, M.D., F.A.C.S., F.I.C.S. (Hon.)
CHICAGO, ILLINOIS

Our group was scheduled to leave the Tokyo Airport for Hong Kong by way of Japanese Airlines, Flight 701, but they were unable to take more than half of the party. Accordingly, about half of the people in the group left earlier by Pan American Airlines. I was fortunate to be one of those who took the later flight, leaving Tokyo at about 11:50 p.m. by Japanese Airlines and arriving in Hong Kong at 8:50 a.m., Monday, October 26, 1959. The Japanese Airlines plane was comfortable and the service offered by the beautiful young Japanese hostesses was superb.

While the sun was just high enough above the horizon thoroughly to illuminate the beautiful scene below, the flight over the cities of Hong Kong and Kowloon, *During his second term of office as president of the United States Section of the International College of Surgeons,* Dr. Edward L. Compere *of Chicago served as the scientific co-ordinator of the 1959 Around-the-World Clinical Tour.*

Earlier chapters of Dr. Compere's account of this journey appeared in previous issues of the Bulletin. *We are now privileged to present an additional installment of his informative and delightfully informal travelogue.*

separated by one of the most magnificent harbors in the world, afforded us a view which no one in our party can ever forget. The city of Hong Kong is on an island which is almost one continuous mountain. The most beautiful and expensive homes are situated high on the side of the mountain facing the harbor. The city of Kowloon is on the opposite side of the harbor on flat land at the tip of the Chinese Peninsula. As we came in, we were pleased to see at least one United States battleship with the American flag flying strongly in the breeze, as well as many other ships, including Chinese sampans and junks, in the harbor. The province of Hong Kong consists of the island and city of Hong Kong, the city of Kowloon across the bay at the tip of the Chinese Peninsula, and the New Territories, which extend to the Red China border.

Met by Friends New and Old

We were met at the Peninsula Airport by **Drs. H. S. Lin, S. C. Chan, Renald Ching,** and others. Dr. Ching is an eminent eye specialist. He studied ophthalmology at the University of Chicago when I was teaching orthopedic surgery in that institution and hence meeting him in Hong Kong was a reunion between old friends.

Immediately a Party and Good Food

After checking into our very comfortable rooms in the famous Peninsula Hotel, which is on the Kowloon side of Hong Kong Harbor, we were entertained at luncheon at the High Ball Restaurant only a few blocks away. Many of the Hong Kong members of the International College of Surgeons and their wives were also present at the luncheon and made our first social event most interesting and pleasant. Among those who attended were **Dr. and Mrs. Arthur Woo.** Dr. Woo is one of the most distinguished surgeons in Hong Kong and a past president of the Hong Kong Section of the College. **Dr. Kenneth K. L. Hui,** a surgeon at Queen Mary Hospital and currently president of the Section, together with **Mrs. Hui,** was also at the party.

Clinical Presentations of Excellent Surgery

Our five-day stay in Hong Kong was crammed from early in the morning until late at night with sightseeing, shopping, and magnificent entertainment accorded us through the wonderful hospitality of the Hong Kong members of the College and their families. We also had one full day of clinical presentations at the Queen Mary Hospital and the other hospitals affiliated with the University of Hong Kong. At the Queen Mary Hospital we had the privilege of observing Dr. Kenneth Hui do some spectacular open chest surgery and **Dr. E. H. Paterson** exhibit great skill as an abdominal surgeon. The professor of orthopedic surgery, **Dr. A. H. Hodgson,** an Englishman who is a scholar, a scientist and a splendid orthopedic surgeon, demonstrated his method of excising tuberculous vertebral bodies and at the same time performed an anterior fusion of the spine, using as bone grafts the ribs which were removed in order to obtain the necessary exposure.

In the evening of the same day, at the University of Hong Kong, Dr. Ralph R. Coffey lectured on the subject of *Incisional or Inguinal Hernia,* Dr. Eugene Jewett on *The Treatment of Fractures of the Spine in the Elderly Patient,* and I spoke on the *Prosthesis Arthroplasty of the Hip: Its Indications, Technique, and Results.* On Friday morning, our last full day in this wonderful city, I spoke to the medical students in the University Pathology Building lecture hall from 8:30 to 9:30 a.m. on *The Prevention of Non-Union in the Treatment of Fractures.* Following the lecture, I presented to the students for their library a copy of the *Pictorial Handbook of Fracture Treatment,* of which I am one of the editors.

The days and evenings of this week in retrospect appear like a kaleidoscope of brilliantly colored pictures with the scenes changing swiftly. We toured the Island of Hong Kong and were given a delicious luncheon at the Repulse Bay Hotel. We were taken on a tour of Kowloon, including the New Territories, which extend inland for about thirty miles from the town of Kowloon toward Red China. The Territories are separated from Red China by a barbed wire fence and by Red soldiers patroling the Red Chinese side of the border. We stood on a small hill a hundred yards away and looked down upon the Red soldier border patrol. We were told that every night of the year desperate and poverty-stricken Chinese families try to escape from Red China by crawling under the fence. If they are caught, they are promptly executed. They are so anxious to obtain freedom and to reach the New Territories that thousands take this

Our group applauding choral group of blind children

Reception on board the Floating Palace Restaurant: Mrs. Ralph Coffey of Kansas City, Missouri, acknowledging greeting by a Fellow of the Hong Kong Section of the College

chance, and many of them do reach safety in the area.

There are almost as many refugee Chinese in Hong Kong, Kowloon and the New Territories as there are citizens of this area. This creates a tremendous problem both from the standpoint of health and from the need to try to provide food, clothing and shelter for more than one million men, women and children. The Hong Kong government has worked miracles, at great cost to the local people, in achieving a fairly good arrangement for the care of these refugee families. Many large concrete buildings, with playgrounds on the roofs, schools and other facilities, have been built for them. The buildings are modern in construction, but the numbers of the people to be cared for are so large that entire families are usually assigned to a single room. In addition to the refugees, there are countless thousands of Chinese who live on small fishing boats. They are born on these boats, live there all their lives, and finally die there.

Wednesday morning, October 28, the members of our group were the guests of Dr. and Mrs. Renald Ching. Dr. Ching, at the time of our visit, was chairman of the Hong Kong Ophthalmological Society. Dr. and Mrs. Ching have been the principal organizers of a school for the blind. One of the main activities of the school is to locate blind students who have good voices and to train and develop their musical talents. This has been described as "a most unusual experiment in social ophthalmology." It is sponsored by the Hong Kong Ophthalmological Society. By prearrangement, our guides took the members of our group to this Hong Kong Music Training Center for the Blind. We were entertained by the singing of a choral group of about twenty blind Chinese students, many of whom had exceptionally fine voices. The training center is privately supported by the Hong Kong Ophthalmological Society and by the many friends of members of the Society. The principal "angel" providing direction and finding financial support for this most worthwhile project is the charming, able, enthusiastic, and seemingly indefatigable Mrs. Renald Ching. At the close of the concert there were tears in the eyes of most of the visiting surgeons and their wives. Almost spontaneously, checkbooks were taken out and checks were written or pocketbooks were opened because everyone wished to have some part in the work which is being done so effectively in helping to develop the talents and create an outlet for the musical abilities of the blind children of the Hong Kong Colony.

Space cannot possibly be provided to tell all of the interesting events of our visit in Hong Kong. A visit to the Tiger Balm Garden is a must for every tourist who stops in Hong Kong. This garden was founded by a Chinese millionaire philanthropist whose name was Aw Boom Haw. Dr. Aw, as he was called, was born in 1882 in Rangoon, Burma, and died in the year 1954 at Queens Hospital, Honolulu, as the result of a heart attack. He acquired a fabulous fortune, said to run into the hundreds of millions of Hong Kong dollars, through the manufacture and sale of *Tiger Balm,* an ointment which is used on arthritic joints, a headache cure powder and a mixture which has been famous because of its effectiveness in curing coughs. All of these medicines are still being sold in almost every country in the world.

One of the tables at the Floating Palace Restaurant dinner: in the rear row, third from the left, Mrs. Arthur Woo; then, Dr. Eugene Jewett, Mrs. Ralph Coffey, Dr. Woo and Dr. Coffey; in the foreground, facing the camera. a lady in white who is a daughter of Dr. and Mrs. Woo

Dr. Roy Mai presenting a Chinese scroll to Dr. Compere

Dr. Aw was a most generous person and is said to have built or helped to build schools, hospitals, infirmaries, orphanages, homes for the aged, and to have given money for victims of floods and other disasters in China, Hong Kong and several other countries. He is said to have given away to charities of various kinds in excess of twenty million United States dollars. In the Tiger Balm Garden of Hong Kong is located one of the several homes owned by Dr Aw. The house itself contains many works of art and a marvelous collection of jades. The garden contains many small statues and also the Tiger Pagoda, which is six stories and one hundred and sixty-five feet in height. It is said to be the finest work of art and architecture in all of the Hong Kong Colony.

The Kindness of Dr. Arthur Woo and his Family

The last evening that we were in Hong Kong we spent cruising on a yacht. It was the evening that probably will be best remembered by most of the surgeons, their wives and friends, and we owe our pleasure largely to Dr. Arthur Woo.

Dr. Woo is highly respected and beloved by everyone we met during our stay in Hong Kong. He is semi-retired from his practice as a general surgeon, but still has great energy and ability. He and his lovely wife have three beautiful daughters. One is married to a physician, a second to an engineer, and a third to an attorney. A wealthy friend of the Woo family offered the use of his yacht so that our party could cruise through the beautiful harbor of Hong Kong and around to the other side of the Island to Aberdeen, where the harbor is filled with several thousand sampans, each representing home and probably all the possession of a Chinese family. The yacht was large and comfortable, and our entire party, together with a number of our Chinese friends, greatly enjoyed the cruise.

Dinner in a Floating Palace

After taking pictures of the large colony of sampans, each of which had a roof shaped like a Quonset hut and was swarming with children of all ages, we were taken by small private boats out to the beautiful floating restaurant which is called the *Floating Palace.* During a pleasant social hour on the *Floating Palace,* we had the opportunity of visiting with Mrs. Woo, the three beautiful Woo daughters and two of the sons-in-law, the third son-in-law being away in Europe at the time; Dr. Kenneth K. L. Hui, president of the Hong Kong Section, and Mrs. Hui; Dr. Roy Mar, secretary of the Section, and Mrs. Mar, who had been hospitable to our party on several occasions during the week, and more than twenty other surgeons of Hong Kong or the Hong Kong Colony. Later we enjoyed a delicious Cantonese dinner. Those of our group who had participated in the scientific program were then presented with certificates of honorary membership in the Hong Kong Section. These were printed in brightly colored Chinese letters. A beautiful scroll was entrusted to me to take back to Dr. Max Thorek. It now hangs in the International Surgeons' Hall of Fame.

O Susanna! Cruising Under the Stars to Aberdeen

Susanna was the name of the yacht in which we cruised to Aberdeen. During the return trip on the same comfortable boat, overhead were the moon and the stars; on the right-hand shore shone the lights of Hong Kong, and on the left those of Kowloon, while all around us were the varied illuminations of the ships anchored in the harbor. Most of our group joined in singing, mostly out of tune, the songs which we had learned many years ago in our youth and had since largely forgotten. It is surprising, however, how the words and music do come back when people have occasion to get together to reminisce about the times of long ago.

The Medicine and Politics of Dr. Li Shu Fan

One of the most interesting and most dynamic of the doctors whom we met in the Hong Kong Colony was Dr. Li Shu Fan. Known to almost all people in the Hong Kong Colony and in many other parts of the Orient, and also to many physicians of England and the United States as Dr. Li, this remarkable man has had a most interesting and useful life. He wrote and published the story of medicine and surgery in Hong Kong covering the period of fifty years between 1908, when he was graduated from the Medical School of the University of Hong Kong, to 1958, when he decided to retire from his active surgical practice. Dr. Li lived and studied in Boston, Massachusetts, where his father was in business, until he was qualified to enter the Medical School of the University of Hong Kong. After graduating from the Medical School, he spent three years at the University of Edinburgh, from which he received a degree in medicine and sur-

Dr. and Mrs. Aaron Simon of Passaic, New Jersey, on a Chinese sampan

Dr. and Mrs. Paul Vietzke of Valparaiso, Indiana, on a sampan in floating colony at Aberdeen, Hong Kong

gery and also a degree in tropical medicine. Upon his return from these studies abroad, he joined the revolutionary forces which overthrew the empire and transformed all of China from a totalitarian government into a republic, with Dr. Sun Yat-Sen as the first president. (Dr. Sun Yat-Sen was also a graduate of the Hong Kong Medical School.)

Jades, Green and White, Provided Inspiration for These Homes

Mrs. Compere and I had the pleasure, together with a few others of our group, of visiting the summer home of Dr. Li, which he has named *Green Jade.* This is as modern as any home could possibly be from the standpoint of all facilities, comforts, and conveniences, but still is typically Chinese in architecture. It is located high on a hilltop overlooking one of the beautiful harbors on the Kowloon Peninsula in what is known as the New Territories. From the garden we looked down upon many Chinese junks and sampans sailing along between the Peninsula and the numerous islands. Labor costs in Hong Kong are so much less than in the United States that it would be hard to estimate what a home of this type would cost. Certainly the home with its gardens, swimming pool and furnishings, which are nearly all collectors' items, would cost several hundred thousand dollars to duplicate in the United States.

Our group was also invited to *White Jade,* the Hong Kong home of Dr. Li. This is located about halfway up the mountain overlooking the harbor of Hong Kong. The white jade motif is carried out throughout the house, grounds and gardens. The gracious hospitality shown by Dr. and Mrs. Li and other members of their family will not be forgotten by any of those who were fortunate enough to be able to get there for a social hour preceding one of the medical meetings at the medical school.

For several generations Hong Kong was merely part of the possession of a powerful, wealthy and aristocratic family of the Tang clan. They had gained possession of the territory during the Ming Dynasty. In 1841 China ceded the harbor, the island of Hong Kong and a portion of the Kowloon Peninsula to Great Britain. The rest of the Peninsula was leased for a period of ninety-nine years. The leased portion of the Peninsula is that which is today known as the New Territories.

A Haven of Freedom and Poverty

When the British took over Hong Kong the population was about two thousand, all Chinese. Today the total population is estimated at three million. About ten thousand of these are British subjects from the United Kingdom and the Commonwealth countries, not including the military forces which are quartered there. Of the three million population more than one million are refugees from Red China. Most of these are unskilled workers and have no means of supporting themselves.

Imaginative Names

Hong Kong in Chinese means "Fragrant Harbor," while the word Kowloon is said to mean "Nine Dragons" and is so named because of a small range of nine hilltops which were located near the present airfield. The airfield is called Kaitak.

Hong Kong is administered by a governor, who is assisted by an executive and a legislative council.

The Lure of a Bargain

Because Hong Kong is a free port, it is considered by those who have been there to be truly a shoppers' paradise. Most of the members of our group took full advantage of the opportunities afforded them to look for bargains in the various tailoring establishments and shops of Kowloon and the city of Hong Kong.

Mrs. May Best of Elkhart, Indiana, and Mrs. Grace Whitton of Chicago, Illinois, looking out the windows of the Floating Palace Restaurant

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From the Secretary General's Notebook

Dr. Horace E. Turner

Now that the United States national elections are past, everyone can settle down to the phase of College business which is uppermost in his mind. It would seem to this writer that we will have to gird ourselves to counter the efforts of those people who wish to develop state socialized medicine and surgery. No greater calamity could happen to the United States than to have state medicine forced upon us. It is my hope, therefore, that all members of our organization will devote some time to this great problem and each in his own way do as much as he can to prevent our Congress and the president-elect from using medicine as a political football.

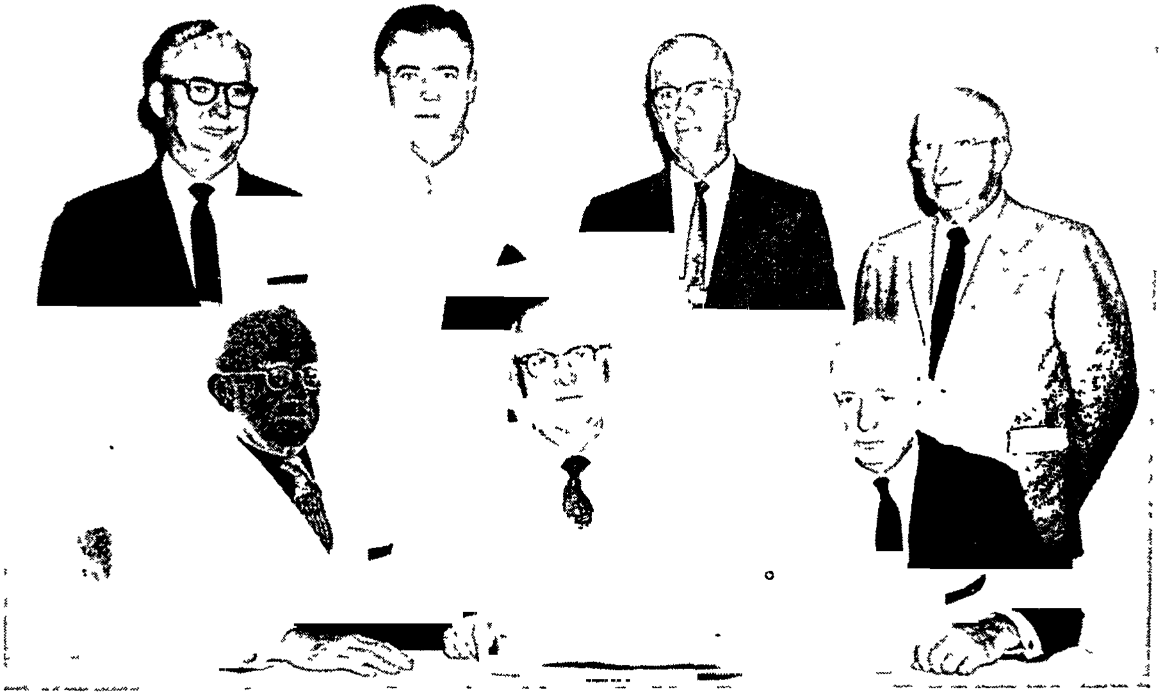
Your College office is developing through its various committees an excellent program for the May 14-18, 1961, meeting at the Palmer House. This year we are to have a number of scientific exhibits in addition to our commercial exhibits. If you know of, or have material for, a good scientific exhibit, we should be glad to hear from you.

Some time ago we received from a large number of our members suggestions as to what they desired to hear about at this 1961 meeting. Our chairman, **Dr. Peter Rosi**, and our co-chairmen, **Dr. M. Leopold Brodny** and **Dr. Arnold Jackson**, have been working steadily trying to develop an outstanding program which will make coming to Chicago and spending these four days with us worth while.

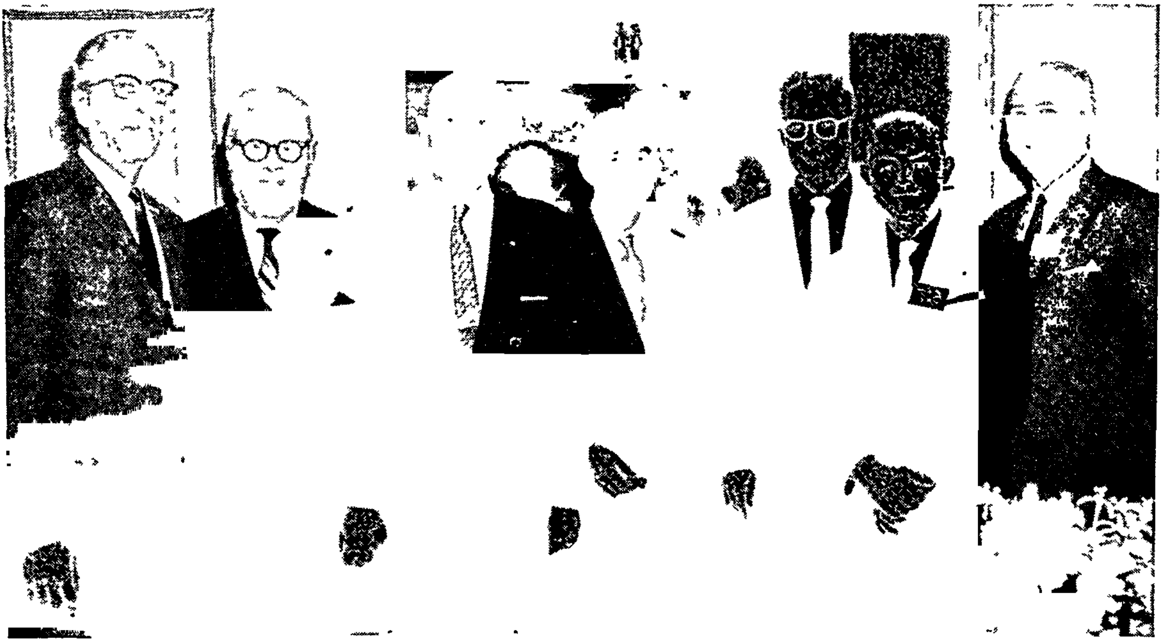
The officers of the International College of Surgeons and of the United States Section of the College are giving a Christmas party at the Hall of Fame on December 10 to honor our Woman's Auxiliary and to thank the ladies for all the work which they have done for us in the past. You are cordially invited to attend this party, but please advise us in advance if you will be here, so that proper arrangements can be made. The party will follow immediately the closing of the December 10 session of the International College of Surgeons' Executive Council. Our guests will be assembled in the Hall of Fame by noontime and the party will include a luncheon. Many of you could bring your wives and attend our meetings on December 9 and 10. This would afford the ladies an opportunity to do some Christmas shopping and wind up their short visit to Chicago by enjoying the Christmas party.

We are developing a research project at McGill University in Montreal under the auspices of the Molson Professor of Genetics, **Dr. J. W. Boyes**, who is the chairman of the department of genetics. Our contact has been made through the services of **Dr. Edwin J. Grace** of New York. We certainly thank Dr. Grace for his efforts in behalf of the College and research work in genetics. We shall have a very interesting scientific exhibit on genetics at the May 1961 meeting.

Horace E. Turner



At a meeting of the executive committee of the United States Section in Winnipeg: Dr. Edward L. Compere, Dr. Gershom J. Thompson, Dr. Arnold S. Jackson, Dr. Chester W. Trowbridge, Dr. John B. O'Donoghue, Dr. Henry W. Meyerding and Dr. Horace E. Turner



At a party at the home of Dr. and Mrs. A. C. Abbott in Winnipeg: Dr. Arnold S. Jackson, Dr. Horace E. Ayers, Dr. Gilbert F. Douglas, Dr. Edwin J. Grace, Dr. Edward L. Compere, Dr. Park Niceley and Dr. George B. Callahan

United States Section

THE PRESIDENT'S MESSAGE

Dr. Gershom J. Thompson

When you receive this letter, December will be well advanced. Having pledged yourself to the appeal of the United Fund or the Community Chest drive, you will cast a watchful eye on the family budget and no doubt begin to reflect on the custom of Christmas giving and wonder about its origin. The Encyclopedia Americana has this to say:

> BEFANA (Italian, Befania, "Epiphany"), a figure, generally representing an old woman, which is exhibited in Italy on the day of Epiphany by children, or in shops, etc., where things for children are sold. It symbolizes the ancient woman of Palestine who, saying she would see them on their return, would not leave her household duties to view the Three Kings of the Orient passing on their way to bear their rich offerings to the infant Jesus. Unknown to Befana, they returned in a different direction, and she is supposed to be still fruitlessly waiting for them. Her influence watches over little children who, on the eve of Epiphany, hang their stockings before the hearth-fire, go to bed early and wait to hear the cry "Ecco la Befana," when up they jump to find the presents awarded for good behavior during the past 12 months. A stockingful of ashes is the award for bad behavior. The parallel custom in the United States, Great Britain, Germany and Protestant communities generally is obviously the visit of Santa Claus on Christmas Eve. In France the children's "étrennes" or gifts are distributed on New Year's Eve; in Russia on Twelfth Night, which is also the eve of Epiphany. (See NICHOLAS, SAINT, OF MYRA). Among the Hebrews at Hannukah or Channukah, the Festival and Dedication of Lights (John x, 22), money is given the children and gifts are exchanged.

So we find that the custom of exchanging gifts, particularly the giving of presents to children and to the needy, at the time of the winter solstice, is common to many nations and many religious groups. The origins of the observance may lie in antiquity and be wrapped in mystery, but the practice itself is hallowed by every sanction, and the impulse within us to perpetuate it is deep and will not be denied.

The Christmas season is one that all physicians, no matter what their age, look forward to keenly. In the early years of parenthood it is especially pleasant to observe the reactions of one's infant in arms to the lights on the tree and all the fascinating things which catch his eye. As the years roll on and the family expands and then inevitably leaves the hearth, one is hopeful for a gathering of the clan so that much that was enjoyed on previous similar occasions can be recounted and lived through again.

So be of good cheer. There is still time to do some of the things you should do, and finally I hope none of you finds any ashes in *his* stocking.

I wish every member of the College, both in this country and abroad, a very Merry Christmas and a happy and rewarding New Year.

Gershom J. Thompson

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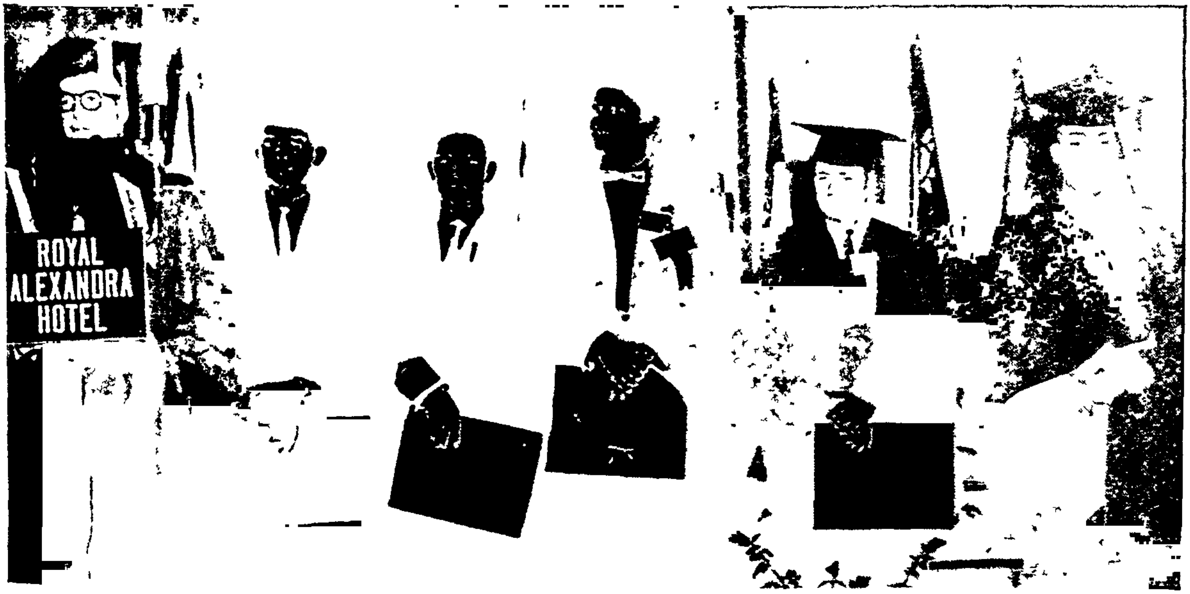

At the Joint Meeting of the Canadian and United States Sections of the International College of Surgeons in Winnipeg, Canada, Dr. Edward L Compere presented certificates of merit to surgical residents: Dr. Augusto A. Ferreira, Dr. Jean Lamour, Dr. J. Krishna V. Pandit, Dr. Robert Smith and Dr. Christos Rigopoulos

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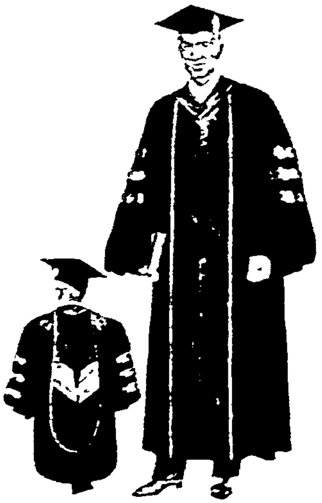

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Honolulu, Hawaii

Dr. Ralph B. Cloward

The regent for the United States Section of the International College of Surgeons in the newest state in the Union is **Dr. Ralph B. Cloward** of Honolulu, regent in the Territory of Hawaii since 1957.

Dr. Cloward was born in Salt Lake City, where he attended the public schools. He went to Hawaii in 1926 and began his college career at the University of Hawaii, where he remained for two years. Returning to Salt Lake City, he continued his studies at the University of Utah and received a B.S. degree in 1930. The first two years of his medical education he secured at the University of Utah Medical College, and then transferred to Rush Medical College of the University of Chicago and was graduated M.D. in 1935, after a year of rotating internship at St. Luke's Hospital in Chicago. He served a three-year residency under **Prof. Percival Bailey** in neurology and neurosurgery at the University of Chicago Clinics and the Albert Merritt Billings Hospital. In 1938 he returned to Honolulu.

Dr. Cloward was the only neurosurgeon in the Pacific at the outbreak of World War II. He published the first paper during the war on the treatment of head injuries. The paper was based on his experience with casualties of the Pearl Harbor attack. He was declared essential to the civilian cause in a war zone and remained in Honolulu throughout the war, serving war casualties as well as civilians, and for this distinguished contribution was awarded a presidential citation.

A diplomate of the American Board of Neurological Surgery (1941) and a Fellow of the American as well as of the International College of Surgeons, Dr. Cloward is a member of Sigma Xi, the Harvey Cushing Society, Western Neurosurgical Association, American Academy of Cerebral Palsy, Peruvian Surgical Association (Hon.), San Francisco Neurological Society, Honolulu Surgical Society, American Medical Association and his state and county medical societies.

In 1954 Dr. Cloward was honored by his *alma mater* with an appointment for that year as visiting professor and head of the department of neurosurgery at the Medical School of the University of Chicago.

He has written extensively in the literature and is known throughout the world for his original contributions to the surgical treatment of intervertebral disk lesions.

Our Board of Regents

IDAHO

ALFRED H. ROSSOMANDO
M.D., F.A.C.S., F.I.C.S., D.A.B.
Nampa, Idaho

The able and popular regent for the United States Section of the International College of Surgeons in the state of Idaho is **Dr. Alfred H. Rossomando, F.A.C.S., F.I.C.S., D.A.B.,** of Nampa, Idaho.

Dr. Rossomando was born in New York City in 1910. He attended Rutgers University and was graduated in 1938 with a bachelor's degree in science. He had his medical education at New York Medical College, from which, in 1942, he received his doctorate. After completing an internship at the Metropolitan Hospital in New York City, he entered upon a program of training in urology at the same hospital.

War Service in Medical Corps of United States Army

This was interrupted, however, by a two-and-a-half-year period of service in the medical corps of the United States Army. Upon his return from active duty he continued his urological studies and training at New York Medical College, Flower and Fifth Avenue Hospitals and at Veterans Administration Kingbridge Hospitals in New York.

In Nampa Since 1949

In 1949 Dr. Rossomando began the practice of urology in Nampa, Idaho. Subsequently he qualified as a diplomate of the American Board of Urology and as a Fellow of the American College of Surgeons and the International College of Surgeons.

At present Dr. Rossomando is attending urologist at Mercy Hospital and the Samaritan Community Hospital in Nampa.

Dr. Alfred H. Rossomando

He also serves as urological consultant to the Union Pacific Railroad Employes Hospital Association.

He is a member of the American Urological Association as well as of various other medical societies, and is the author of the *Urological Nursing Manual* published in 1959 (F. A. Davis).

Leader in Civic and Welfare Movements

Keenly interested in local problems, he devotes much time and effort to participation and leadership in civic betterment causes and organizations, and from 1957 through 1959 served as Idaho state chairman in the Crusade for Freedom.

Dr. Rossomando has been married since 1953 to the former Miss Betty Jo Harding. They live in a charming home located on the outskirts of Nampa.

Woman's Auxiliary

THE PRESIDENT'S MESSAGE

The Meeting in Winnipeg

Mrs. Virgil T. DeVault

Our delightful visit to Winnipeg to attend the Joint Meeting of the Canadian and the United States Sections of the International College of Surgeons is now a happy memory. The weather, cool, bright and sunny, enhanced by glorious autumn-colored foliage, was truly perfect. And the meeting was excellent. Registration for both Canada and the United States exceeded expectation, and the Auxiliaries to both Sections gained new members.

Getting to Know Our Neighbors to the North

The Manitoba Medical Society's meeting preceded and somewhat coincided with our own, and by combining some of our programs and social events we were able to enjoy the company of our Canadian friends.

The ladies' hospitality committee, comprised of the wives of members of the Manitoba and Winnipeg branches of the College, had arranged a varied and interesting program for us. There were "morning coffees," luncheons, teas, tours and a dinner.

Culinary Specialty of the Region

The dinner given by **Mrs. Samuel S. Peikoff,** who was assisted by **Mrs. Stephen Juba,** wife of the mayor of Winnipeg, at the Glendale Country Club, was beautifully appointed, and it was there that we were introduced to Winnipeg goldeye—truly a gourmet's delight.

Culture, History and Sightseeing

Through the courtesy of the women's committee of the Winnipeg Art Gallery, we were conducted through the Gallery by its curator and served a delicious buffet luncheon. Later we were privileged to tour some of Winnipeg's most distinguished homes. On another day, after an excellent smörgasbord at the Town and Country Restaurant, we rode on chartered buses through the city to historic Lower Fort Garry. (Winnipeg is situated on the confluence of the Red and the Assiniboine Rivers and has grown up on the site of Fort Garry, the western trading post of Hudson's Bay Company.) From Lower Fort Garry we drove to the Yacht Club, where we embarked on a short but delightful trip on the beautiful Red River. Some of us visited St. Boniface, the picturesque French city across the river, and

The speakers' table at Mrs. Peikoff's dinner: Mrs. Park Niceley, Mrs. Stephen Juba, Mrs. Samuel S. Peikoff, Mrs. Bernhard Zondek of Israel, Mrs. Virgil T. DeVault and Mrs. Karley Pinkerton

at one time or another all of us went to Eaton's Department Store and saw the International Surgeons' Hall of Fame Hospital Exhibit and the ancient relics from the Hall of Fame.

It is a wonder how with so busy a social schedule we found time for business meetings, but we did. Mrs. Niceley very ably fitted our working hours into the program and organized the agenda so well that with a minimum of effort and great economy of time we accomplished our purposes. Incorporated in the minutes of our transactions is a resolution to thank all who "as a group and individually graciously contributed to our delightful visit." An especial vote of thanks was accorded to Mrs. A. C. Abbott and Mrs. S. S. Peikoff, respectively chairman and co-chairman of the Ladies' Committee, and Mrs. Karley Pinkerton, president of the Canadian Auxiliary.

I am sorry that all of you could not have been with us. We missed you. However, we shall look forward to seeing you at the next meeting, which will be held in Chicago in May 1961.

Our New Board of Officers

We have been most fortunate in securing an excellent and dedicated board of officers for the year 1960-1961.

We are very grateful indeed to the women who have accepted the responsibility of serving us, without remuneration, and generously expending, in service to the auxiliary, their time, energy and outstanding ability. I am sure that it is the wish of all Auxiliary members that these dedicated women be rewarded not only by their own spiritual growth but also by an awareness that we appreciate their contribution and are ready to cooperate with them at all times.

Arilla DeVault

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United States Section, International College of Surgeons

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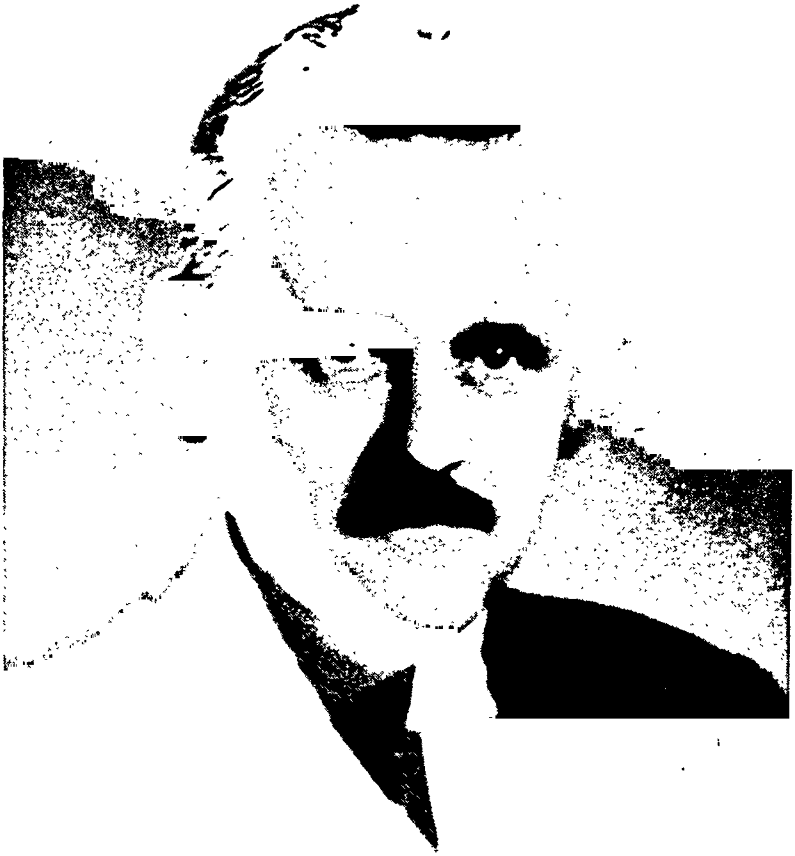

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In Memoriam

JOSE RÁBAGO CHAVEZ
M.D., F.I.C.S.
1899-1960

Dr. José Rábago Chavez

Dr. José Rábago Chavez, one of the founders of the Mexican Section of the International College of Surgeons and one of the most eminent professors on the Faculty of Medicine at the National University of Mexico, died on February 17, 1960.

Dr. Rábago was born at Gomez Palacio, Durango, on February 10, 1899. He was educated at the Carlos María Bustamente School in Guadalupe Hidalgo, D. F., the National Preparatory School of Mexico, and the Preparatory College of Orizaba, Veracruz. He took his professional training at the Faculty of Medicine of the National University of Mexico, graduating in 1924, and served a succession of internships and residencies at the Juárez Hospital.

His teaching career began with an assistantship in clinical obstetrics and progressed to a professorship in the same subject at the National University.

Dr. Rábago's duties at the University extended to the graduate division, where he served as head and professor in the department of obstetrics. As visiting professor he taught at Tulane University Graduate School of Medicine in New Orleans, Louisiana, the Faculty of Medicine of the University of Michoacán, and the Graduate School of Obstetrics and Gynecology at the Independent University of Guadalajara.

He served successively as a consultant in prenatal care at the Eduardo Liceaga Child Health Center; director of the maternity center of La Lomas de Chapultepec; chief of, and, since September 1953, medical consultant to, the maternity service at the General Hospital of Mexico.

Dr. Rábago was a member of the Mexican Academy of Surgery, the Mexican Academy of Medicine, the Medical Society of the General Hospital and the Mexican Society of Pediatrics. He was a Fellow of the International College of Surgeons, a corresponding member of the Cuban Society of Obstetrics, and an honorary member of the American Medical Association and the Venezuelan Society of Obstetrics and Gynecology. He also was a founder of the Mexican Association of Gynecology and Obstetrics.

Author of *Apuntes de Clínica de Obstetricia*, in five editions, and of *Manual de Obstetricia*, in two editions, he published close to thirty papers in various scientific journals, and made a major contribution to obstetrical education in Mexico.

Juan Mora, M.D.
SECRETARY-TREASURER
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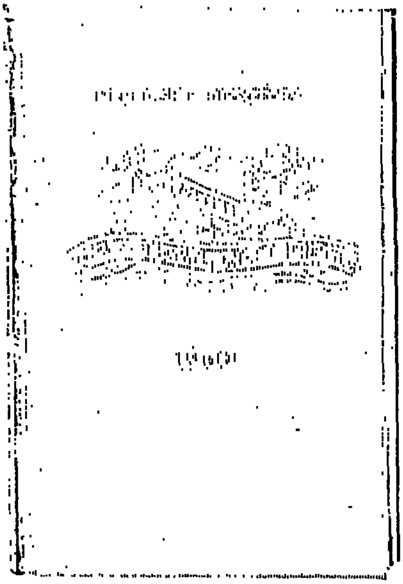

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Membership Directory

listing all its members both alphabetically and geographically and with pertinent information about each member.

The volume will include the Constitution and Bylaws of the College, information on qualifications for membership and a description of College activities.

The publication of the Directory will entail an expense to the College of between 25 and 30 thousand dollars. The material is now being prepared for the printer.

Pre-publication price for a copy of the Membership Directory is $5.50—after publication $7.50.

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